

DEPARTMENT STORES

NINE ESSENTIALS OF APPLIANCE SELLING LISTED BY DAMERON

NEW YORK CITY—"The road to net profits in electrical appliances is beset by many difficulties, it calls for changes—a new attitude—a new technique—and a willingness to depart from tradition," Kenneth Dameron, executive secretary of the Electrical Merchandising Joint Committee, told a division meeting of the National Dry Goods Association here last week.

"I would not have you believe that the development of the electrical appliance market for department stores is an easy path to riches," the speaker stated.

Essentials for Profit

Mr. Dameron named nine essentials to profitable merchandising briefly: (1) specialty selling; (2) continuous sales promotion; (3) proper balance of inside and outside selling; (4) alignment of all interested industry forces for coordinated selling effort; (5) better contractual relationships with the manufacturers; (6) recognition of the necessity for service; (7) new methods of financing customers; (8) new market psychology to be met; (9) new sales technique needed to develop the less readily reached portions of the potential market.

W. R. Putnam of Electric Bond & Share Co. told the same group that "recent disagreements have taught us utility men a lesson, and that in the future we will not be so dogmatic in our handling of trade problems."

The constantly decreasing utilities' share of total appliance sales has shown the utilities that they are not required to do a large portion of appliance selling, the speaker averred.

Interested in Quality

"We are no longer concerned as to who makes appliance sales so long as our customers purchase quality appliances in a constantly increasing volume," Mr. Putnam says. "We recognize the great assistance your stores are rendering through appliance sales."

Mr. Putnam told the department store men that they can best cooperate with the utilities by increasing their volume of appliance sales by recognizing that attacks on utilities hamper the rendering of good service and that only with good service can customers be satisfied with appliances purchased; by acquiring a thorough understanding of appliance operating costs so that the size of energy bills will not lead to disappointed customers, and by aiding in spreading the idea of full utilization of appliances and service.

MODEL KITCHEN OPENED IN PORTLAND, ORE., STORE

PORTLAND, Ore.—The first General Electric model kitchen on the Pacific coast was opened recently at Meier & Frank Co. here, one of the largest department stores in the Pacific Northwest, according to C. W. Hartenfels of the General Electric Supply Corp. of this city.

Mrs. Irene Kerr is in charge of the kitchen, and has the position of home service director of the store.

In addition to large newspaper advertisements announcing the opening, a radio broadcast was given by Mrs. Kerr. To attract passers-by to the store window display, loud speakers broadcasting a continuous speech by Mrs. Kerr and music were used.

Part of the home service program of the store is a weekly cooking school in the auditorium which is attended by approximately 1,000 women each week. Announcement of the General Electric kitchen was made at this school, and practically every member of the audience visited the kitchen on the day of the opening.

Meier & Frank Co. was established in Portland, Ore., in 1837, and is managed by Julius L. Meier, president, who is also governor of the state of Oregon. Aaron M. Frank is vice president and general manager of the store.

BUFFALO DEPARTMENT STORE OPENS G. E. DEPARTMENT

BUFFALO — Larkin department store here, unit of Larkin Co., Inc., has just installed a General Electric kitchen and appliance department. This is the first of a number of all-electric kitchens and appliance sections to be installed by Frank W. Wolf, Inc., Buffalo G. E. distributor, in department stores in this territory.

Hudson Lowers Prices On Floor Samples

DETROIT—J. L. Hudson Co., local department store, recently advertised price reductions on 16 reconditioned floor samples of electric refrigerators, the sale prices ranging from \$149.50 for a 7-cu. ft. Leonard to \$59.50 for a Commerce refrigerator.

A reconditioned Frigidaire with a one-year guarantee was advertised for \$75. Other bargains were a 4-cu. ft. Copeland with porcelain interior and coldial for \$69.50; the latest model Norge with 5-cu. ft. capacity for \$139.50; and a Copeland of more than 7-cu. ft. capacity for \$129.50.

A deluxe model Frigidaire with hydrator and all-porcelain cabinet was offered at \$125, while a 5-cu. ft. Frigidaire was for sale at \$110. A Kelvinator of 4-cu. ft. capacity sold for \$89.50.

CASWELL OPENS 'STORE WITHIN A STORE' IN FLINT

FLINT, Mich.—Another "store within a store" was opened by Detroit's Caswell, Inc., Michigan General Electric distributor, when Smith-Bridgman's department store threw open the doors of its new G. E. appliance division and all-electric kitchen here last week.

As is true in Trankla's department store in Grand Rapids, the new G. E. appliance division in the Smith-Bridgman store is managed by the Caswell organization, and replaces the distributor's branch formerly operated there.

Quarters heretofore occupied by the Flint Caswell branch have been vacated, and its staff of 10 persons has been transferred to the Smith-Bridgman store.

GIBSON MADE PRESIDENT OF COUNTRY CLUB

GREENVILLE, Mich.—Frank S. Gibson, Jr., vice president in charge of sales of the Gibson Electric Refrigerator Corp., here, was elected president of the Greenville Country club at a meeting of the board of directors.

15,000 Detroiters Visit Model Kitchen

DETROIT—More than 15,000 Detroiters visited the electrical appliance division of the J. L. Hudson department store here last week when the store opened its new G. E. all-electric kitchen and appliance department.

Feature of activities accompanying the department's opening was a series of demonstrations of "electrical marvels" given twice daily, from Jan. 10 through Jan. 13, by Dr. R. L. Manning from General Electric Co.'s "House of Magic" in Schenectady, N. Y. Walter Daily, manager of the G. E. refrigeration department's sales promotion division, was present Friday.

Following each demonstration, visitors were invited to visit the General Electric kitchen coach parked near the store, where salesmen from Caswell, Inc., Michigan G. E. distributor, demonstrated appliances installed in the coach. Some 4,600 people were shown through the coach.

Hudson company will employ one salesman, trained in the Caswell organization, to take charge of selling in the store's new department. In addition to the General Electric appliances

already merchandised by the store, the latter will now offer G. E. ironers and dishwashers, and a complete line of small appliances.

Marshall Field Sells Hermetic for \$79.50

CHICAGO—Hermetic refrigerators of a "nationally known" make were recently advertised by Marshall Field & Co. for sale at \$79.50, \$89.50, and \$99.50 installed.

Convenient terms and a three-year guarantee were advertised as an added inducement to buyers.

The three models advertised at the above prices were 4-cu. ft., 4½-cu. ft., and 5½-cu. ft. capacity, with lacquer exteriors and porcelain enamel interiors.

RICHARDS & CONOVER TAKES KELVINATOR FRANCHISE

KANSAS CITY—The Kelvinator Corp. sales franchise for western Missouri, Kansas, and Oklahoma has been awarded to the Richards & Conover Hardware Co., which has headquarters in this city and a large dealer and sales organization in the three states. Walter B. Richards is president of the distributing organization.

THE NEWS IS OUT!

SERVEL'S

"NEW DEAL"

is talked of everywhere

Because Servel's new deal offers the best opportunity in years for refrigeration profits, retailers everywhere welcome it. Servel has built the new deal on the premise that greater profits belong to the man who makes the sale.

NEW DISCOUNTS • NEW PRICES • NEW LINES
NEW ADVERTISING SET-UP • NEW MARKETS
NEW SALES PLANS • NEW FACTORY HELP

And—The Servel line is the most complete

in electric refrigeration—it opens up opportunities in every field for every dealer. A wide range of prices—a wide range of sizes—with unmatched quality. Every requirement of home refrigeration can be filled from the Servel Domestic Lines.

Every refrigeration requirement for every kind of business can be filled from Servel's Standard Commercial Lines.

THE CAPPEL FURNITURE CO.

FURNITURE, CARPETS, STOVES.

215-221 SOUTH MAIN STREET

DAYTON, OHIO

January 13, 1933.

Servel Sales, Inc.,
Evansville, Indiana.

Gentlemen:

Servel is to be complimented on its new selling plan. This is the first opportunity furniture merchants have had to buy a high grade, standard, nationally advertised line of electrical refrigerators on a selling plan that gives him two things he must have:

1. Adequate margin which will permit him to do the necessary advertising and sales promotion work and still leave a profit.
2. Exclusive territory arrangements that prevents any one else capitalizing on the merchandising effort he puts forth.

Very truly yours,

Harry F. Cappel
Harry F. Cappel.

HFC:RB

READ THIS LETTER FROM MR. CAPPEL OF THE CAPPEL FURNITURE COMPANY, DAYTON, OHIO

WHAT DEALERS SAY!

"revolutionary" . . . "simple but 100% sound" . . . "the solution for dealers" . . . "this plan will surely be followed by others" . . .

These are typical of the comments we hear on every hand. Not one dissenting voice—they all agree.

SERVEL

Evansville, Indiana

WRITE TODAY FOR DETAILS OF SERVEL'S "NEW DEAL"

REFRIGERATION NEWS

Registered U. S. Patent Office

ESTABLISHED 1926. MEMBER AUDIT BUREAU OF CIRCULATIONS. MEMBER ASSOCIATED BUSINESS PAPERS.

VOL. 8, No. 6, SERIAL NO. 203
ISSUED EVERY WEEKCopyright, 1933, by
Business News Pub. Co.

DETROIT, MICHIGAN, FEBRUARY 8, 1933

Entered as second-class
matter Aug. 1, 1927THREE DOLLARS PER YEAR
TEN CENTS PER COPY

COPELAND ADOPTS MODERNISTIC CABINETS

MOVIE STARS TO
ADVERTISE G. E.
ON TRAIN TOURSpecial Coaches Will
Carry Celebrities
To 14 Cities

LOS ANGELES—Famous movie stars will be passengers on a special train advertising the General Electric electric kitchen which will leave Feb. 21 for a 14-stop cross-country tour from Hollywood to New York City. Walter J. Daily, advertising and sales promotion manager of the G. E. specialty appliance sales department, will direct the tour.

Warner Brothers Pictures, Inc., is cooperating with the specialty appliance sales department of the General Electric Co. to make this nation-wide promotional project possible. A new Warner picture, "42nd Street," will be advertised during the trip.

En route from Hollywood to New York City, the train will make stops at 14 major cities.

In these cities, the movie stars will ride in a parade from the railroad depot to the downtown showrooms of the General Electric distributor, where the celebrities and prominent local citizens will participate in broadcasts over local radio stations.

In many of the cities included in the itinerary, G. E. distributors have arranged to hold their annual spring sales conventions on the day that the train stops at the city in which they make their headquarters. Following the ceremonies in the distributor's

(Concluded on Page 4, Column 5)

STAR SALESMEN TO
BE AWARDED PRIZES

DETROIT—One hundred and two Kelvinator salesmen, leaders in the Christmas sales campaign, will receive the awards for their accomplishments before the end of this month, Vance C. Woodcox, director of advertising and sales promotion, has announced.

The leading salesman for the period of the campaign in each of the 20 Kelvinator sales districts in the country will receive a trip to Detroit, a gold watch, and a three-day holiday as guests of George W. Mason, president and chairman of the board, and H. W. Burritt, vice president in charge of sales.

The watch is known as the Burritt award, and the Kelvinator vice president

(Concluded on Page 4, Column 1)

N.E.L.A. TO MEET FEB. 15
TO APPROVE DISSOLUTION

NEW YORK CITY—By direction of the national executive committee, the annual convention of the National Electric Light Association will be held Feb. 15, 1933, at 10 o'clock a. m. at the office of the association, 420 Lexington Ave., according to A. Jackson Marshall, secretary.

At this meeting, the national executive committee has determined to recommend that the National Electric Light Association be dissolved and its existence terminated; that all its debts and obligations be paid, and that any assets be distributed by a committee.

Assets will be distributed to the contributing members of the association

(Concluded on Page 4, Column 4)

MAJESTIC OPENS SERIES OF
DEALER CONVENTIONS

CHICAGO—The meeting being held in New York City Feb. 6, 7, and 8 by Majestic New York, Inc., marks the first of a series of conventions conducted by distributors to introduce the 1933 Majestic line to their dealers.

First of the new models to come through production were shipped Jan. 28, according to Don M. Compton, vice president of the Grigsby-Grunow Co.

Williams Builds 3
Conventional
Type Units

BLOOMINGTON, Ill.—Three new conventional type Ice-O-Matics have just been added to the 1933 line of Ice-O-Matic electric refrigerators, according to S. C. Bell, manager of the Ice-O-Matic division, Williams Oil-O-Matic Heating Corp.

Known as Y-4, Y-5, and Y-6, with 4, 5.3, and 6.4 cu. ft., respectively of net food storage capacity (Nema), the new models are powered by the "Y" conventional type of compressor introduced last year by the Williams organization. Lowest price of the three is the Y-4, listing at \$112.50 f.o.b. factory. Both cabinet and system are covered by a three-year guarantee.

Mr. Bell has outlined a schedule, beginning next week, for a series of sales meetings with all Eastern distributors of Ice-O-Matic refrigerators,

(Concluded on Page 20, Column 2)

AIR-COOLING SCHOOL
HELD BY FRIGIDAIRE

DAYTON, Feb. 8.—The first commercial and domestic air-conditioning school ever held here opened Monday under the sponsorship of Frigidaire Corp. with more than 125 air-conditioning sales managers and engineers from Frigidaire district and distributor headquarters and representatives of leading public utilities and furnace companies in attendance as students.

The school will close Friday night after every angle of air-conditioning development has been covered.

H. W. Newell, vice president in charge of sales for Frigidaire, was the keynote at the opening, Monday.

J. C. Chambers, manager of Frigidaire

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DITZELL TO VISIT WEST
COAST DISTRIBUTORS

CHICAGO—John F. Ditzell, assistant vice president in charge of refrigeration of Grigsby-Grunow Co., manufacturer of Majestic electric refrigerators, left Jan. 30 for an extended trip to the West Coast.

Mr. Ditzell plans to contact all western and coast distributors, in developing plans for the introduction of Majestic's new line and will organize dealer meetings at which it will be introduced.

Here Is The Machine!



"Where is the unit?" Copeland advertising is asking. And when looking at the front of the cabinet, with the door either open or closed, one wonders, too. This picture answers the question.

LEONARD TO CONDUCT
44 DEALER MEETINGS

DETROIT—Spring sales activity of Leonard Refrigerator Co. will be launched Feb. 20 at the first of a series of distributor-dealer meetings to be held in 44 cities, according to plans being made by R. I. Petrie, general sales manager, and A. M. Taylor, merchandising director.

Meetings will be known as sales schools and will be arranged by distributors. Practically every dealer of the Leonard organization will attend one of the sessions.

Programs at all schools will be conducted by Mr. Petrie and Mr. Taylor. Meetings are tentatively scheduled for the following places:

Cleveland, Indianapolis, Chicago, Milwaukee, Albany, N. Y., Rochester, N. Y., Buffalo, New York City, Philadelphia, Washington, D. C., Baltimore, New Haven, Conn., Providence, R. I., Portland, Me., Boston, Louisville, Ky.,

(Concluded on Page 4, Column 4)

Extra Copy
Sales

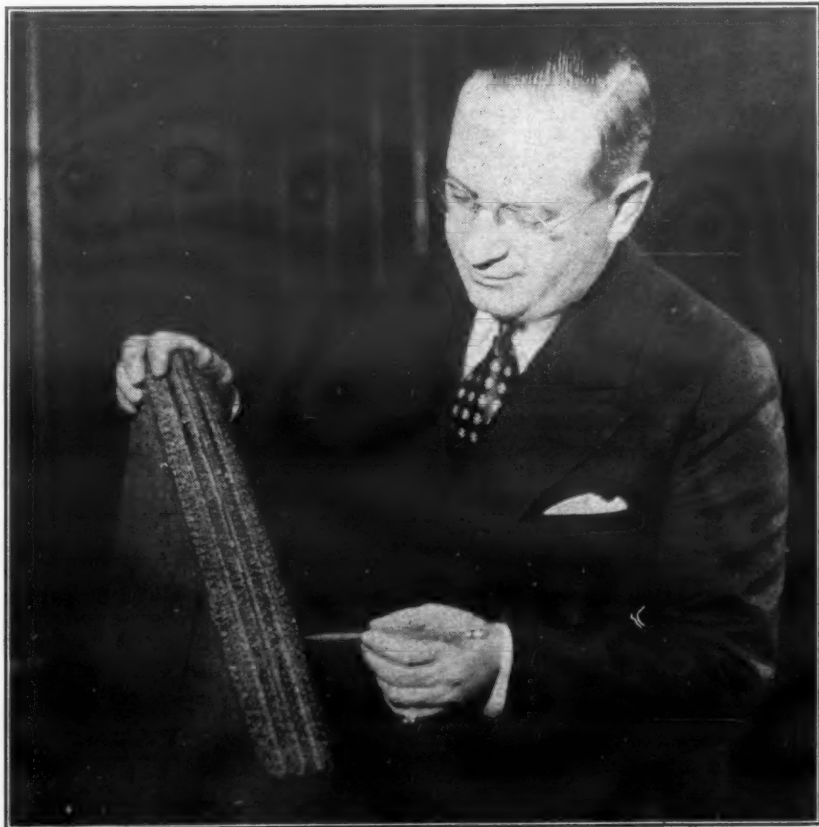
Electric Refrigeration News is not sold on news stands; yet

35,984

extra copies (over and above regular subscriptions) were purchased by mail during the first five weeks of 1933. Practically all of these extra copies went to DEALERS. This means an average additional paid circulation of 7,197 copies per week, which almost equals the normal circulation to yearly subscribers.

The demand for extra copies indicates the high degree of reader interest aroused by recent issues.

ANNOUNCE NEW CORRUGATED INSULATION



Seymour Franklin, president of the Detroit Paper Products Corp., shows a cross-section of the insulation which his company has just announced.

Detroit Paper Products
Uses Glossy Surfaces
To Reflect Heat

DETROIT—Development of a new corrugated fiber insulation, with glossy surfaces to reflect heat waves, has just been announced by Seymour Franklin, president of the Detroit Paper Products Corp., corrugated box manufacturer.

The new insulation, which has already been adopted by one of the large manufacturers of electric refrigerators, is produced in package form, sized to suit the requirements of refrigerator cabinets.

Corrugations are laminated, that is, corrugations of corrugations of adjoining layers of the material are crossed, so that many tiny paper cells are formed to impede the passage of heat by dead air pockets. A further feature is the glazing of flat surfaces to use the thermal principle of reflectivity.

Seven corrugated sheets per inch of thickness comprise the "core" of the insulation, the stock having from 34 to 38 corrugations per lineal foot. The core stock is machine-glazed sulphate kraft paper, 25-lb. weight.

The core is then wrapped in a double thickness of kraft paper, the outer sheet being 40-lb. stock, the inner being a glassine sheet with the glossy surfaces like the flat surfaces of the core.

This duplex wrapper is constructed

(Concluded on Page 21, Column 5)

FULL LENGTH OF
BOX USED FOR
FOOD STORAGE5½ Ounces of Methyl
Chloride Used In
74-Lb. Unit

By G. F. Taubeneck & J. T. Schaefer
MT. CLEMENS, Mich.—Distinctive style, plus a brand new unit of compact design, make the 1933 Copeland household electric refrigerators radically different from any previous Copeland product.

Massive, modernistic lines give the new Copeland cabinets a style easily distinguishable from that of any other refrigerator on the market. (See picture on page 3 of the Feb. 1 issue of the News.)

Moreover, a unique scheme of placing the small unit inside (in an insulated compartment—see adjoining picture) the cabinet permits the door to run almost the full length of the box—instead of allowing space at the top or bottom for the unit.

Total weight of the refrigerating unit (including evaporator) is but 74 lbs. It can be put in or taken out of the cabinet by one man in 80 seconds.

Only 5½ oz. of refrigerant (methyl chloride) are needed to charge the system.

All the moving parts outside the motor are so small that W. D. McElhinny, vice president in charge of sales, wears them on his watch chain; while the entire motor-compressor assembly, Mr. McElhinny claims, may be hidden in his greatcoat pocket.

Guarantee period and prices have not yet been definitely determined. First shipments to distributors and dealers will be made about Feb. 20. Cabinets will be made by Truscon Steel Products Co. of Cleveland and shipped to Mt. Clemens, where assembly and tests will be made.

The new Copeland line will be available in 4-, 5-, 6-, 7-, and 11-cu. ft. sizes. The 11-cu. ft. box is powered by two units and has two doors. It is supplied in porcelain finish only. Both porcelain and lacquer finishes may be had on the 6- and 7-cu. ft. boxes, while the 4- and 5-cu. ft. boxes are furnished in lacquer only.

An automatic defrosting cycle is a feature of all models. When operating on this cycle, it is claimed that the new Copeland refrigerators have about 20 per cent more humidity than the 1932 Copeland models. If the customer desires, the system may be switched from the defrosting cycle to any one

(Concluded on Page 19, Column 1)

AIR-CONDITIONING MOTORS
ARE DESIGNED BY WAGNER

(See picture on page 14)

ST. LOUIS—Specially designed for small air-conditioning units is a new line of motors just introduced by the Wagner Electric Corp. The motors range in power from 1/20 to ¼ hp. and are resilient-mounted.

The new motors were introduced as the result of a survey made by E. A. Forkner, assistant manager of motor sales, and B. T. McCormick, designing engineer of the Wagner company.

Their tour included many manufacturers of air-conditioning equipment in the East and Middle West, and indicated that one of the chief requirements of air-conditioning motors is quiet operation, Mr. Forkner states.

ROYCRAFT CO. TO HOLD
MEETING FOR DEALERS

MINNEAPOLIS—The Roycraft Co., Grunow distributor for Minnesota and the Dakotas, is planning a dealer meeting here during the week of Feb. 13-18. A number of factory officials are expected to attend, according to R. B. Cohen of the Roycraft organization.

An announcement mailing campaign to appliance dealers in the Northwest has been conducted in order to arouse interest in the new Grunow line.

BY GEORGE F. TAUBENECK ---

Bettina Hall— Westinghouse Dealer

Bettina Hall is just about our favorite person. We do have a yen for Dorothy Hall, Lyda Roberti, and one or two others; but none of today's stagefolk seem to have quite so much charm and grace as the Shirley Sheridan of "The Cat and the Fiddle."

Some time ago we saw her in Detroit in the above-mentioned show; and a fortnight ago in Chicago we went to see her again. Each time she was lovelier. And guess what: She's a Westinghouse dealer! No foolin', it's the straight dope.

She is the proprietor of Modern Devices, Inc., Staten Island, New York. It's a combined hardware and electrical appliance store, and was opened for business first on Dec. 15, 1931. George W. Schock manages the store for Bettina, and trains and directs the salesmen.

Miss Hall is one of those once-in-a-decade oddities among showpeople and professional athletes—a headliner who puts her money into a business of her own while she's still making it.

She knows her professional life must be short, but figures that the electrical appliance business should be good for a lifetime. (Most of us are betting that way, too.)

Perhaps it might interest you to know that the first year's operations of Modern Devices, Inc., netted a profit. Nothing comparable to her musical comedy earnings, of course, but a profit nevertheless.

And now we'll let Bettina Hall tell you about it in her own words:

"A great many people express wide-eyed surprise that I, a woman, should be a retailer of electrical appliances. They are simply amazed that an actress should interest herself in such a business. I can't quite agree with them.

"In the first place, I think it perfectly appropriate that a woman should have a voice in the selection of the electrical appliances that a store recommends to its women shoppers.

"And as far as my being in business is concerned—I have found there are innumerable 'opportunities' offered stage people for the investment of their hard-earned savings. I chose to invest mine in a live, active, intensely interesting business which has proved, at the end of our first year, to be an excellent field for profit.

"While my hobby interests lie in antique furniture and antique jewelry, my home management interests are entirely the opposite. I believe that women should make use of every modern device that is offered them for the relief of household drudgery and for the simplification of their housekeeping tasks.

"I believe in the modernization and electrification of the home, as it makes for a more efficiently operated household and permits housewives the enjoyment of a greater freedom. The result is happier, more contented women, with time to devote to those interests that are for the advancement and welfare of their families.

"My own efforts for the store are devoted largely to the selection of merchandise. In this connection I am, of course, primarily concerned with the woman's viewpoint on the article in question. I try to determine its desirability from the standpoint of practicability, color, quality, design, and efficiency. I am forever testing and experimenting with new appliances in my own home.

"I find the electrical appliance business intensely interesting. With the added momentum that has been given to home electrification, especially during the past year, I anticipate an increasing importance for the retail electrical appliance store."

We trust you have already noted—and sighed over—the photographs on this page. And in case you failed to see her in "The Cat and the Fiddle," perhaps you'll remember her work in "The First Little Show," "Meet My Sister," and "Three Little Girls." Her lovely sister, Natalie, is now playing in the current New York favorite, "Music in the Air."

Ditzell Statistics

One reason we like John Ditzell, manager of the Majestic refrigeration department, is that he always has some figures for us. And how we like figures!

On our last trip to Chicago he pulled out of a top desk drawer the following interesting set of statistics on Grigsby-Grunow manufacturing operations (Majestic radios and refrigerators). We think you'll probably find them as absorbing as we did. John is especially proud of the fact that in the bad year of 1932, the total Ma-

How To Melt Sales Resistance



BETTINA HALL, lovely musical comedy star, poses in front of a Westinghouse refrigerator—for which she is a dealer in Staten Island, N. Y. This picture, however, was not taken in her own store.

jestic factory and home office payroll was \$3,265,000. That, gentlemen, is a bunch of money.

Here they are:

Number of pieces in average:	
Radio chassis	839
Radio speaker	227
Radio cabinet	262
Radio tube	64
Complete radio	1,840
Refrigerator cabinet	797
Hermetic unit	1,524
Complete hermetic refrigerator	2,321
Number of operations (exclusive of inspections) in average:	
Radio chassis	470
Radio speaker	78
Radio cabinet	280
Radio tube	59
Complete radio	1,300
Refrigerator cabinet	629
Hermetic unit	4,679
Complete hermetic refrigerator	5,308
No. of incoming cars	1,229
No. of outgoing cars	1,049
*No. of incoming trucks	26,500
*No. of outgoing trucks	8,900
**Total light & power bill	\$118,000.00
**Total gas bill	\$ 25,000.00
**Total heating bill	\$ 88,000.00
Square ft. of floor space	1,281,075
Acres of floor space	30
Total payroll	\$3,265,000.00
*Estimated.	
**11 months actual, 1 months estimated.	

Tall Tales Dept.

There is a slight chance that if enough people read the January issue of H. L. Mencken's *American Mercury*, electric refrigerator dealers will sell a number of units for installation in nurseries during the next few months.

In the magazine is a story called "The Baby in the Icebox." It concerns a jealous husband who became so infuriated at his pretty wife that he freed a tiger in her living room to kill her.

Lura, the wife, thought first of her baby, so she held the tiger off with a firebrand, removed some shelves from her electric refrigerator, wrapped little Ron in a blanket, and placed him in the refrigerator—the only all-steel thing in the house, so the story says. (She also flicked the cut-off switch.)

Frightening the tiger with a blazing stick was a good idea, but Lura didn't figure on the house catching on fire, which it did.

Then just to make matters worse, Lura's husband came into the house and shot her. A passerby rescued Lura and had her rushed to the hospital. In the meantime the tiger had cornered the frenzied husband, and both beasts were trapped in the flames.

Just as she regained consciousness in the hospital, the mother told state

troopers about the baby, and they rushed to the scene of the fire.

The house was burned to the ground, but the refrigerator was discovered, and opened. Here's how the story describes it:

"The baby was in the electric icebox. They found him there, still asleep and just about ready for his milk. The fire had blackened up the outside, but inside it was as cool and nice as a new bathtub."

Just in case you're interested, Lura got out of the hospital, and a few weeks later, eloped with a medicine show man.

Stalking the Wild Frigidaire

J. P. McEvoy, who wrote the continuity for a good many Ziegfeld shows, penned an article for *January Life* which might amuse some refrigeration men.

McEvoy burlesques the running talk made by Frank Buck in his big game talkie, "Bring 'Em Back Alive," and records the remarks of Mr. Buck during the filming of a fictitious trip through the "wilds" of New York City.

Here are some excerpts:

"I trained my telescopic lens on the back yard, where the fight of the century was about to take place.

"Standing there, cool and collected, but tense, was a Frigidaire. Stealthily stalking it was the last of the Icemen—a brawny, hairy tribe, now practically extinct. I knew this was a fight to the finish."

McEvoy explains parenthetically that "in the finished film the fight ends in a draw, and we see the Iceman and the Frigidaire sharing a bottle of Acidophilus in Grant's Tomb."

Here is the description of the second lap through New York's labyrinth:

"So when we saw the Frigidaire standing there in the bank vault glistening with a cold sweat, we didn't need to be told that its mortal enemy was just around the corner.

"Soon he came in sight and we shuddered. It was the first time we had met an Instalment Collector face to face.

"We had hardly time to crank our cameras when the fight was on. It was the fight of the century! First it was the Instalment Collector! Then it was the Frigidaire! Pretty soon the Bank jumped in.

"A pack of Receivers surrounded the fighters like a ring of snarling wolves, ready to leap on the loser."

Then this comment by McEvoy:

"The final 200 feet of this episode, where the Frigidaire dies in a cloud of ammonia gas and is torn to pieces by the Receivers and scattered all over the bank vault, were dipped in chocolate and cut up for candy bars by the Board of Censors."

Red-Hot Mommise

That sugar daddies who later are given cause to regret their bestowals of jewelry and furs upon inamoratas might be glad to hear about the merits of an electric refrigerator as a gift is shown by a story published recently in the *Detroit Times*. It follows:

"Giving a fur neckpiece, a radio, and an electric refrigerator to another man's wife does not constitute grounds for a \$20,000 bail suit, a jury in Judge Ormond F. Hunt's circuit court had decided today.

"As a result, Robert Hoey was acquitted of stealing the affections of Mrs. Harvey L. Talmage, 7616 Merrill Ave., in a suit brought by Talmage.

"The gifts made his wife spurn his love, Talmage charged.

"Not at all," said Hoey from the stand. "They were just friendly gifts. The radio and refrigerator were presents to both the Talmages from me, a grateful boarder in their home."

And that reminds us of Ogden Nash's priceless lines:

"Affection is a noble quality—It leads to generosity and jollity.

It also leads to breach of promise.

If you go around lavishing it on red-hot mommise."

Brief Moments

While we're on the subject of refrigeration in other publications, we can't forbear recording these brevities:

One of Walter Winchell's recent columns reported this cuddlymoon (bet Winchell wishes he had thought of that one)—"Florence ('Vanities') Johnson, and Ray Legge, a Rex Cole exec., are honeymooning in the West Indies . . ."

Grantland Rice, dean of all sports columnists, devoted one of his latest "Sportlights" to a story of a hunting trip he took with a former president of the N.E.L.A. and present R-K-O chief executive (Merlin H. Aylesworth), with our own Rex Cole, and others. We quote:

"On this day's shooting, the main honors went to Hugh Robertson's Labrador retriever, a big, broad-backed animal resembling one of Frank Buck's black panthers.

"His name was Diver and he happened to be a Scottish international champion. As a retriever he was a marvel. No matter where the bird or birds fell, Diver was right on top of the job.

"But in the meanwhile he had been watching the bird dogs work. There was a quizzical look on his face as they froze at the point.

"A short while later Diver also came to a point. I thought at first he was pointing either Deac Aylesworth or Rex Cole, as he was walking between them at the time.

"At any rate, there was Diver, the Labrador retriever, giving a perfect imitation of a bird dog in action. A second later, as we stepped up, a lone quail took the air, and Rex Cole bagged him in flight.

"There may be smarter dogs than a Labrador retriever, but I haven't seen one yet."

Elmer Adams, conductor of the "Random Shots" column, presents this low-temperature note:

"The coldest place in the world, says a geophysicist, is at a height of 10 miles above the Equator, where the temperature is 150° below zero. That's the place. And I'll give it to you."

Majestic's polar bear, "Mighty Monarch of the Arctic," was copied in detail (unconsciously, we take it) on the front cover of the Jan. 14 *Saturday Evening Post*.

Dusty Desk

Jud Sayre, Kelvinator sales manager, is known around the Kelvinator organization as "the man with a dusty desk."

In fact, he and his desk are going to part company for a considerable length of time. To be explicit, 40 weeks of the 52.

During that 40 weeks—almost four-fifths of the year—he will tip countless scores of Pullman porters, sleep to the drumming of the wheels on practically every railroad in the United States, inscribe his name on the registers of hotels enough to house all the descendants of those who came over in the *Mayflower* and "see America" with a vengeance.

Practically every salesman, dealer, and distributor's man in America will feel the firm grip of the Sayre hand and enjoy the infectious Sayre chuckle.

And when at last he gets upper-berth rheumatism, he'll have our sympathy. We've had it for some time now, and are just about ready to settle down in just a Little Home for the Old Folks.

A Pome as Is a Pome

On one of the sourest mornings of the year we found the following jingles on our desk. They had been clipped from a newspaper column (just what newspaper we didn't learn), and the columnist, in turn, had evidently clipped the second bit of verse from the *Satevepost*. At any rate, they turned an acid mouth into a spring of milk-and-honeyed phrases. Read it, and see if it doesn't make you feel good, too:

LINES TO MY ELECTRIC REFRIGERATOR

"Sometimes I wake before the morn when all is black and drear, but I am never lonely for a trusty friend is near; apartment folk are wrapped in dreams, the streets are still, but hark!—my leal refrigerator keeps on singing in the dark. It seems to say: 'Rest, have your fun for I am going strong, and like the brook of Tennyson, I croon my cheery song:'

"I cool the haunts of eggs and cream With many a purr and putter, I glide in frigorific stream To bicker round the butter; With silver rime my pans I ply My glaciare cubes to thicken, I loiter round my lemon pie, I chuckle o'er the chicken, I stall, I start, I fret my tank With thirsty sighs and struggles, And hail left-overs, pale and dank, With little gorks and guggles; Then round the ginger ale I flow, To chill the chops and liver, For food may come and food may go But I go on forever!"

—*Saturday Evening Post*.

Why Worry?

A nifty greeting card has been sent to patrons of the Roycraft Co., Minneapolis distributor of Grunow refrigerators, Philco radios, and MacGregor golf clubs.

Under a heading, "Happy days are here again!" appear drawings of the distributorship's proprietors, Lou and Roy Cohen, and in the center is the real text—a greeting that argues the recipient out of his pessimism about the new year.

Here it is:

"We wonder why folks worry anyhow. There are only two reasons for worry . . . Either you are successful or you are not successful . . . If you are successful there is nothing to worry about.

"If you are not successful there are only two things to worry about . . . Either your health is good or you are sick. If your health is good there is nothing to worry about.

"If you are sick there are only two things to worry about . . . You are going to get well or you are going to die . . . If you are going to get well there is nothing to worry about.

"If you are going to die there are only two things to worry about . . . You are going to heaven or you are not going to heaven. If you are going to heaven there is nothing to worry about.

"If you are going to the other place you'll be so damned busy shaking hands with your old friends you won't have time to worry. So why worry?"

Incidentally, this same "why worry" passage was incorporated into the Christmas card of Jimmie Davin, sales promotion manager of the Grunow Corp.

She's Bettina Bank Account on Refrigeration




BETTINA HALL bets her savings on the future of the appliance business.

PROGRESSIVE PROFITS

from the **SAME**

PROSPECT!!!

• GENERAL  ELECTRIC KITCHEN •

WHEN A G-E RETAILER takes an order for a refrigerator, his profit on that customer is *just getting under way!* For now, with other General Electric appliances at his disposal, he has qualified that customer as a potential owner of the complete General Electric Kitchen.

In every woman's heart is the desire to have an all-electric kitchen. The refrigerator is only the first step. Her dream kitchen may "grow up" gradually, but in the end *she will have it*, and the G-E Retailer will have ALL the profit.

Continuous business from one source puts the G-E Retailer in an enviable position, for he profits on the sale of ranges, dishwashers and other G-E kitchen units in addition to his income from refrigerator sales.

In *establishing* his customer as an eventual owner of a complete General

Electric Kitchen, the G-E Retailer has a *complete line* of refrigerators to offer, including both the sealed-in-steel Monitor Top and the low priced G-E Junior. For those to whom original low price is most important, the G-E Junior is today's outstanding value. And for those to whom quality is the dominating appeal, the famously dependable Monitor Top refrigerator is recognized as the standard of refrigeration excellence. Today, one out of three electric refrigerators in use is a General Electric Monitor Top. Its 5-year performance record is unparalleled and General Electric guarantees its mechanism with a 4-Year Service Plan—three years beyond the standard one-year warranty.

General Electric Company, Specialty Appliance Sales Dept., Section DF-21, Hanna Building, 1400 Euclid Avenue, Cleveland, Ohio.

102 STAR SALESMEN TO RECEIVE PRIZES

(Concluded from Page 1, Column 1)

dent will make the presentation to the Detroit visitors at the "President Mason Banquet" here on Feb. 21, the second day of the three-day visit.

Gold watches containing the Kelvinator coat of arms will be awarded to the other 82 Christmas contest winners, who were leading salesmen in each distributing territory. Distributors will present these awards and convey Mr. Burritt's congratulations.

The salesmen who will make the Detroit factory trip are:

Harry Londa, Public Service Electric & Gas Co., Newark; H. A. Westbrook, Virginia Public Service Co., Alexandria, Va.; M. F. Southerland, Southern Public Utilities Co., Charlotte, N. C.; Frank Meoni, Kirkmyer Electric Co., Richmond, Va.

L. E. Weyland, Alabama Power Co., Birmingham; Gus Miller, Williams Hardware Co., Clarksburg, W. Va.; William Clauss, Graybar Electric Co., Cincinnati; R. N. Moore, Pearson Piano Co., Indianapolis.

J. M. Scholem, 555, Inc., Little Rock, Ark.; D. L. Calmes, Philip Werlein, Ltd., New Orleans; Furman Bischofberger, Public Service Co. of Colorado, Denver; D. L. Dunn, Northern States Power Co., Minneapolis; Thomas Yarrell, El Paso Electric Co., El Paso, Tex.

J. K. Birchfield, Powers Furniture Co., Portland, Me.; Frank Tige, Kelvinator Sales Corp., Cambridge, Mass.; Henry Fautsch, John Van Benschoten, Inc., Poughkeepsie, N. Y.; Francis Cleary, Morley-Murphy Co., Milwaukee; Ray Nelson, Isaac Walker Hardware Co., Peoria, Ill.

The other winners include the following: V. T. Earley, Central Hardware & Factory Supply Co., Akron, Ohio; Leo Wolff, Albany Garage Co., Albany, N. Y.; Harry Ashcraft, Raabe & Mauger Co., Albuquerque, N. M.; G. Pipes, Panhandle Kelvinator Co., Amarillo, Tex.

G. E. Hicks, Graybar Electric Co., Inc., Atlanta; C. C. Taylor, Newt Brunson, Austin, Tex.; W. H. Slasman, Consolidated

Gas & Electric Co., Baltimore; E. J. Young, Bangor Hydro Electric Co., Bangor, Me.; L. A. Tennan, Billings Hardware Co., Billings, Mont.; F. G. Vinyard, Clark & Jones Piano Co., Birmingham; A. Terriault, Walker Electric Co., Boise, Idaho; G. A. Wright, Kelvinator-Buffalo Corp., Buffalo; Harold Thompson, G. S. Blodgett Co., Inc., Burlington, Vt.

Leon Hampton, Sullivan Valve & Engineering Co., Butte, Mont.; W. R. Collard, Peoples Globe Furniture Co., Canton, Ohio; J. B. Walker, Casper Supply Co., Casper, Wyo.; J. A. Hood, South Carolina Power Co., Charleston, S. C.; J. R. Patton, Daugherty Supply Co., Chattanooga, Tenn.

Wm. J. Kirsch, Commonwealth Edison Co., Chicago; C. C. Chambers, L. C. Wiswell Co., Chicago; A. W. Russell, Graybar Electric Co., Cleveland; T. A. Meserve, Lowell Mersey Hardware Co., Colorado Springs, Colo.; J. G. Nunnally, Broad River Power Co., Columbia, S. C.

Ernest D. Duds, Columbus Distributing Co., Columbus, Ohio; C. W. Riddell, Seaman's Electric Shop, Inc., Concord, N. H.; Peter Bloome, Mueller Lumber Co., Davenport, Iowa; W. B. Butcher, Dayton-Kelvinator Co., Dayton.

Chas. J. Netzer, Western Colorado Power Co., Delta, Colo.; Ray Turney, H. E. Sorenson Co., Des Moines, Iowa; J. P. Sweet, Kelvinator-Flint, Flint, Mich.; P. E. Flemister, Carroll Moore Co., Ft. Worth, Tex.; John Jennings, Moore & Stewart, Inc., Gastonia, N. C.; Eitel F. Meyer, Morley-Murphy Co., Green Bay, Wis.; S. M. Pierson, Carolina-Kelvinator Co., Inc., Greenville, N. C.

W. E. Barrett, Mississippi Power Co., Gulfport, Miss.; H. M. Rhea, Kelvinator-Bohman Co., Hagerstown, Md.; G. S. Schofield, Jere Woodring Co., Hazelton, Pa.; W. W. Drodgy, Straus-Bodenheimer Co., Houston, Tex.; Harvey A. Wilson, Emmons Hawkins Co., Huntington, W. Va.; Carl Sundland, Northwestern Public Service Co., Huron, S. D.

C. W. Croddy, Public Service Co. of Indiana, Indianapolis; J. A. Sherrod, North Lumber Co., Kalamazoo, Mich.; L. H. Shopf, Landis Electric Shop, Lancaster, Pa.; Joseph Manning, Lawrence Gas & Elec. Co., Lawrence, Mass.; Victor J. Mucci, Stratton & Terstegge Co., Louisville; Harry Priestly, Lowell Electric Light Corp., Lowell, Mass.

W. Wallace Burkey, Public Service Co. of New Hampshire, Manchester, N. H.; G. F. Lashbrook, Kelvinator-Appliance Corp., Miami, Fla.; Martin Vangen, North-

ern States Power Co., Minneapolis; Kenneth Mintie, Rackliffe Bros. Co., Inc., New Britain, Conn.; G. H. Bowers, Dix Bowers Co., Norfolk, Va.; Chas. M. Harris, Graybar Electric Co., Inc., Omaha.

F. C. Ramsing, Electrical Equipment Co., Phoenix, Ariz.; David Jacobs, Raymond Rosen Co., Philadelphia; C. M. Hauer, C. R. Rogers, Pittsburgh; John W. Hopley, New Hampshire Gas & Elec. Co., Portsmouth, N. H.; Ray Cadden, The Post & Lester Co. of Rhode Island, Providence; Clark I. Hoagland, Calkins White Bros., Pueblo, Colo.; E. Ould, Thurman & Boone Co., Inc., Roanoke, Va.

Paul D. Wilmot, Mable-Lowrey Hardware Co., Roswell, N. M.; Oscar Dion, Central Vermont Public Service Co., Rutland, Vt.; E. N. Dean, Zion's Cooperative Merchandise Institute, Salt Lake City, Utah; J. W. Wilson, Electric Refrigerator Co., San Antonio, Tex.; Chas. E. Mercer, Kelvinator-San Diego Co., San Diego, Calif.

R. W. Newhouse, Sherman Clay Co., San Francisco; C. J. Kirkpatrick, Tri-State Electric Co., Sioux Falls, S. D.; W. Morris, Tull & Gibbs, Inc., Spokane, Wash.; D. J. Martin, Central Illinois Public Service Co., Springfield, Ill.; H. G. Davis, Ozark Motor & Supply Co., Springfield, Mo.; L. Nachman, Witte Hardware Co., St. Louis; D. T. Musselman, Homer-King, Inc., Tacoma, Wash.; O. A. Schumaker, Kaufman Leonard Co., Tacoma, Wash.

W. A. Bingham, Kelvinator Stanley Co., Tampa, Fla.; Paul Filler, Barber & Ross, Inc., Washington, D. C.; D. J. Brennan, Stinson & Barry, Waterville, Me.; Harold Butenhoff, Wisconsin Valley Electric Co., Wausau, Wis.; J. R. Jones, Jones-Cornett Elec. Co., Welch, W. Va.; A. W. Mac Nichols, Earle Rogers Co., Wheeling, W. Va.; H. W. Velez, Williamsport Auto Parts Co., Williamsport, Pa.; J. F. Turbidity, The Worcester Electric Light Co., Worcester, Mass.; V. L. Brillhart, The Careva Co., York, Pa.; Jack Burton, The Staubaugh-Thompson Co., Youngstown, Ohio.

DETROIT A.S.R.E. TO DISCUSS COMFORT COOLING, FEB. 20

DETROIT—Comfort cooling will be discussed in the next session of the Detroit section, American Society of Refrigerating Engineers on Feb. 20, according to George Bright, chairman of the meeting.

Investigation of N. Y. Utilities Asked

ALBANY, N. Y.—Charging that New York City's gas and electric appliance dealers believe appliance sales by public utilities to be unfair, State Senator Philip M. Kleinfeld on Feb. 2 demanded an investigation of the matter by a joint legislative committee.

As specified in the resolution submitted by Senator Kleinfeld to the upper house, this investigation would form a part of a general inquiry made to determine whether New York City gas and electric companies are violating the anti-trust laws, and are charging excessive service rates, as the senator alleges.

The Democratic senator declared that the various companies have interlocking directorates, and that "the controlling interests of each are held by the United Corp. of Delaware, or the Niagara Hudson Power Corp."

Resolution submitted provides for an appropriation of \$25,000 from the legislative contingent fund to finance the investigation, which will be composed of five upper house members, and three from the assembly, if the resolution is adopted as it now stands.

TWO DISTRICT MANAGERS FOR KELVINATOR CORP. DIE

DETROIT—Two members of the Kelvinator field sales organization died during January.

Thomas L. Mauldin, district manager at Springfield, Ill., was a victim of a heart attack on Jan. 11. On Jan. 30, District Manager William B. Milliken, with headquarters at Denver, died of double pneumonia.

H. W. Burritt, vice president in charge of sales, headed a delegation of Kelvinator Corp. officials who attended the funerals of both men.

Mr. Mauldin's work was mainly in contacting the Illinois Public Service Co. and other utility companies in Illinois. Mr. Milliken's territory comprised several of the Rocky Mountain states, but he was particularly identified with the contacting of the Denver Public Service Co. organization.

WESTINGHOUSE SALESMEN START ON BERMUDA TRIP

NEW YORK CITY—Fifty-one Westinghouse refrigerator salesmen, members of the "Inner Circle" of the Quota Busters club of the Westinghouse refrigeration division, sailed from here Saturday on the S.S. Pan-American for a six-day holiday as a reward for their sales working during 1932.

The salesmen, accompanied by factory officials, were scheduled to arrive in Bermuda on Monday and to leave the island on Wednesday, arriving in New York City Friday morning.

Included in the group of factory officials who are making the trip are: R. C. Cosgrove, manager of the refrigeration division; R. E. Imhoff, merchandise sales manager; S. H. Pittman, merchandise advertising manager; Roger Bolin, merchandise advertising; Gil Baird, editor, *Cold Selling Talk*; and R. G. Hunter, Fuller, Smith & Ross, Inc., advertising agency.

LITCHFIELD HEADS N. J. ELECTRICAL LEAGUE

NEWARK—Harold P. Litchfield, former president of the Essex Electrical League, was elected president of the New Jersey Council of Electrical Leagues at a recent meeting of the council at the Newark Athletic club.

J. H. McQuestion, a member of the Electrical League of South Jersey, was elected vice president; Edward Gardner of the Hudson County Electrical League, treasurer; and Wm. Rae Crane of the Tri-County Electrical League, secretary.

LEONARD PLANS SERIES OF DEALER MEETINGS

(Concluded from Page 1, Column 3) Cincinnati, Pittsburgh, Wheeling, W. Va., Altoona, Pa., St. Louis, Oklahoma City, Dallas, Tex., Fort Worth, Tex., New Orleans, Orlando, Fla., Atlanta, Charlotte, N. C., Knoxville, Tenn., Detroit, Des Moines, Omaha, Denver, El Paso, Tex., Phoenix, Ariz., San Diego, Calif., Los Angeles, Fresno, Calif., San Francisco, Sacramento, Calif., Portland, Ore., Seattle, Fargo, N. D., and Minneapolis.

N.E.L.A. TO DISSOLVE AT MEETING FEB. 15

(Concluded from Page 1, Column 1) in proportion to the amount contributed. The liquidating committee will ascertain the amount given by all members of each class A, D, and F, from Jan. 1, 1926, to the date of dissolution, and on that basis determine what per cent of the distributable funds each member is to receive.

MOVIE STARS & TRAIN TO ADVERTISE G. E.

(Concluded from Page 1, Column 1)

showroom, one or more of the stars will appear before the distributor's sales meeting and briefly address the dealers, salesmen, and others attending.

A complete operating General Electric kitchen with refrigerator, range, dishwasher, food mixer, modern lighting, and other kitchen appliances, will be installed on the train.

There will be no Pullman diner on the train, but all foods will be preserved, prepared, and cooked with the use of G. E. equipment, while a G. E. dishwasher will wash the dishes. A United Hotels chef will be in charge of the kitchen.

Both sides of the special train will be electrically lighted—said to be the first time in railroad history that this has been done. The exterior of the train will be especially decorated with gold and silver leaf.

Electrically lighted signs on the train will spell out "Warner Brothers 42nd Street" and "General Electric Kitchen Special—Equipped with G. E. Refrigerator, G. E. Range, G. E. Dishwasher."

Replica of Malibu Beach

A replica of Malibu Beach (playground of the Hollywood celebrities) will be constructed in the observation car, while sunlamps also will be installed on the train so that the stars may have their sun baths. Special generating equipment will be built into the baggage car to furnish current for the kitchen and exterior lighting, while huge sun arcs—known as "Hollywood" lights—will cast powerful colored light beams into the sky at night.

Among the stars of filmdom who are expected to make the transcontinental trip are William Powell, Bebe Daniels, James Cagney, Joe E. Brown, Loretta Young, Evalyn Knapp, Mary Brian, Alice White, George Brent, Bette Davis, Laura La Plante, and Guy Kibbee. In addition there will be a troupe of 12 chorus girls, handpicked from the Warner lot.

Following the ceremonies at the distributors showrooms in the various cities, the actors will make personal appearances at local theaters to publicize the future showing of "42nd Street," a special Warner Brothers attraction about to be released.

Plan to Receive Train

Distributors all along the route are making plans to receive the train, and are busy lining up state and local officials, and local celebrities, to take part in the parade from depot to showroom.

In addition to a band and the automobiles carrying the celebrities, it is planned to have the General Electric traveling kitchens and other decorated floats carrying G. E. refrigerators, ranges, and dishwashers in the procession.

The distributors will issue tickets for admittance to their showroom for the stars' radio broadcast. Amplifiers will be placed outside the display rooms in order that the expected crowds outside may listen to the broadcast.

In one or two cities, the visitors will be taken to leading department stores which have installed complete General Electric kitchens and G. E. appliance departments.

Inauguration Ball

One of the high spots of the tour will be the stopover in Washington, D. C. The special train will arrive in the capital on the morning of the inauguration, and, after the parade to the distributor's showroom, the stars will attend the inaugural ceremonies and the inaugural ball that evening. On the following day they will make personal appearances at the Warner Brothers' theater for the premiere of the movie, "42nd Street."

Special arrangements are also being made for the reception of the train and the stars in New York City, as the picture has its locale in New York's rialto.

Schedule of Tour

Following are the cities where stops will be made, and General Electric distributors who will act as hosts:

Feb. 21, Los Angeles, George Belsey, George Belsey Co., Ltd.; Feb. 23, Denver, B. K. Sweeney, B. K. Sweeney Electric Co.; Feb. 24, Kansas City, M. A. Glueck, Glueck & Co.

Feb. 25, St. Louis, L. D. James, James & Co.; Feb. 27, Indianapolis, A. F. Head, Hoosier Electric Refrigeration Co.; Feb. 28, Chicago, R. Cooper Jr., R. Cooper Jr., Inc.; March 1, Detroit, S. C. Caswell, Caswell, Inc.

March 2, Cleveland, F. H. Cushman, Cushman-Willis Co.; March 3, Pittsburgh, W. H. Ochiltree, Ochiltree Electric Co.; March 4, Washington, D. C., C. L. McCrea, National Electric Supply Co.

March 6, Baltimore, D. F. Hines, The Hines Co.; March 7, Philadelphia, Judson C. Burns, Judson C. Burns, Inc.; March 8, Boston, W. L. Thompson, Gentsch & Thompson, Inc.; March 9, New York City, Rex Cole, Rex Cole, Inc.

The
Outstanding
Value of
all Time!

\$112.00

TAX PAID—F.O.B
FACTORY...

A NEW standard of value is set. And Gibson has set it! The Gibson series "L" is a definite forward step in low cost refrigeration. Two popular size models. Large and roomy. Priced to meet the keenest competition.

Outstanding features are stream line design, flush fitting, curve-top door, embossed door panel and semi-concealed hardware.

SPECIFICATIONS

	L-535					L-710			
	H.	W.	D.			H.	W.	D.	
Overall	53 9/16"	26"	27"		Overall	60 9/16"	29"	28 1/2"	
Capacity	5.35 cu. ft.				Capacity	7.07 cu. ft.			
Shelf Area	8.61 sq. ft.				Shelf Area	11.93 sq. ft.			
63 Ice Cubes					84 Ice Cubes				
2 Tray evaporator	1 single				3 Tray evaporator	2 single			
	1 double					1 double			
Insulation 3"					Insulation 3 1/2"				

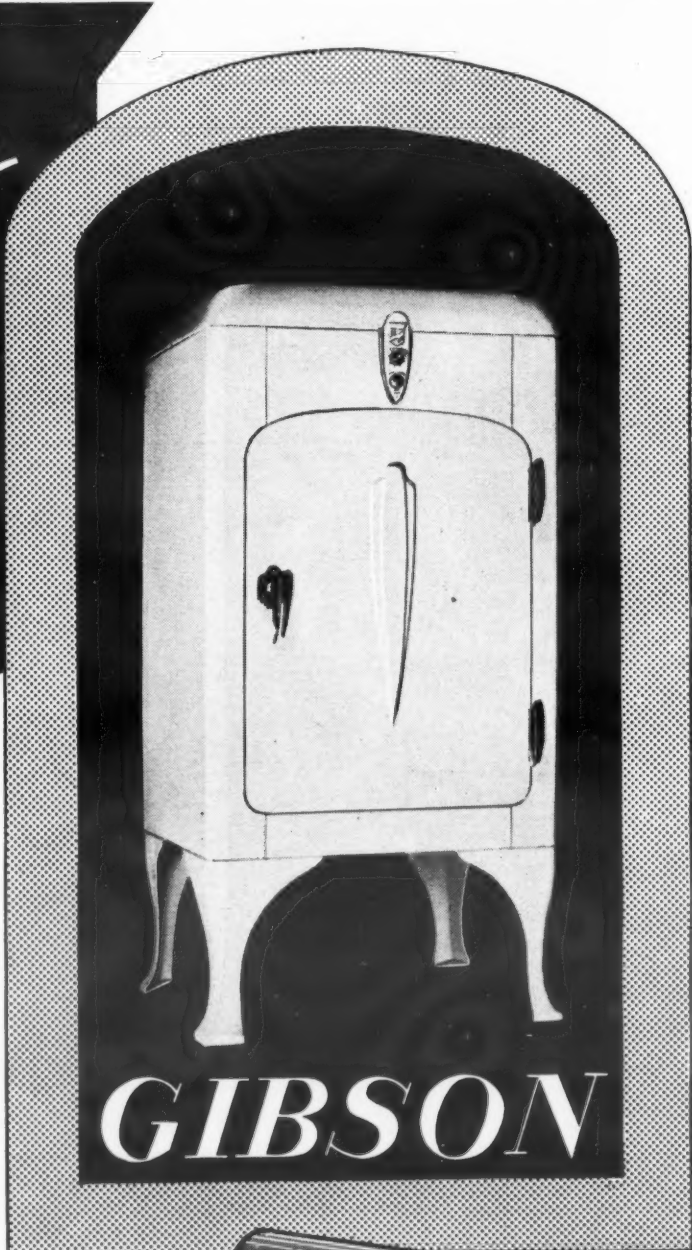
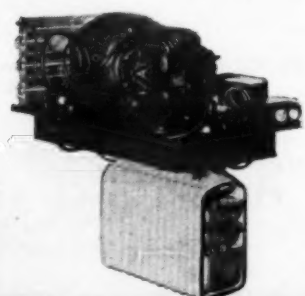
SIX OTHER MODELS IN SERIES H

SIX OTHER MODELS IN SERIES H

MONOUNIT POWER

Hermetically Sealed
Two Cylinder Compressor

The Gibson MonoUnit requires but half the space—weighs approximately half as much as ordinary units. Direct piston drive. Smooth, powerful and quiet. 1/5 H.P. motor. New 12 point temperature control. Refrigerates while defrosting.



Write for Complete Details

GIBSON ELECTRIC REFRIGERATOR CORP.

GREENVILLE MICHIGAN

Export Sales Dept.
201 N. Wells St.
Chicago, Ill., U. S. A.

Cable Address
"GIBSELCO" Chicago
Bentley Code



Congratulations • MR. JONES

—FROM ONE VETERAN TO ANOTHER

DOWN in Welch, West Virginia, in the foothills of the Alleghanies, Paul Jones has been making refrigeration sales history. In a town of 3,500 people, he has made sales records that would be a credit to a dealer in a town many, many times the size of Welch.

Since 1921, he has represented Kelvinator. For 12 years, he has aggressively promoted electric refrigeration in general and Kelvinator in particular.

During this time he has seen many refrigeration dealers, many manufacturers, and many electric refrigerators come and go. Mr. Jones reminisces:

"There were two things I looked for in an electric refrigeration franchise when I decided to go into the business twelve years ago.

The first thing was *the best* product. And the second, was a company that had the organization and the vision to grow with what I believed was a coming industry.

"I wanted a franchise upon which I could build a sound, permanent and profitable business. My selection was Kelvinator. And not once in the past twelve years have I doubted the wisdom of my choice."

Thank you, Mr. Jones, for the compliment. And at the same time, congratulations on your remarkable sales records during the past twelve years. We join hands with you in looking forward to the *next twelve years*.

☆ ☆ ☆

KELVINATOR CORPORATION, 14245 Plymouth Road, Detroit, Michigan. Factories also in London, Ontario, and London, England.

Kelvinator



JAMES BUILDING NEW ST. LOUIS SALESROOM

ST. LOUIS—Work has been started in erection of a new three-story building on Lindell Blvd. here, to house the offices and main salesroom of James & Co., Inc., St. Louis General Electric distributor.

Architecture of the structure will be of the colonial type, to conform to the residential motif of the district in which the distributorship will be located. In general appearance, the building will resemble a large residence, except for the large paneled display window on the street side.

New building will have 19,000 sq. ft. of floor space. In the basement will be located auxiliary display rooms, sales training quarters, and space for cooking schools.

Entire main floor will be utilized for displaying General Electric appliances. General offices will occupy the second floor, while the third story will be used for storage purposes.

Kelvinator Installed In Egyptian School

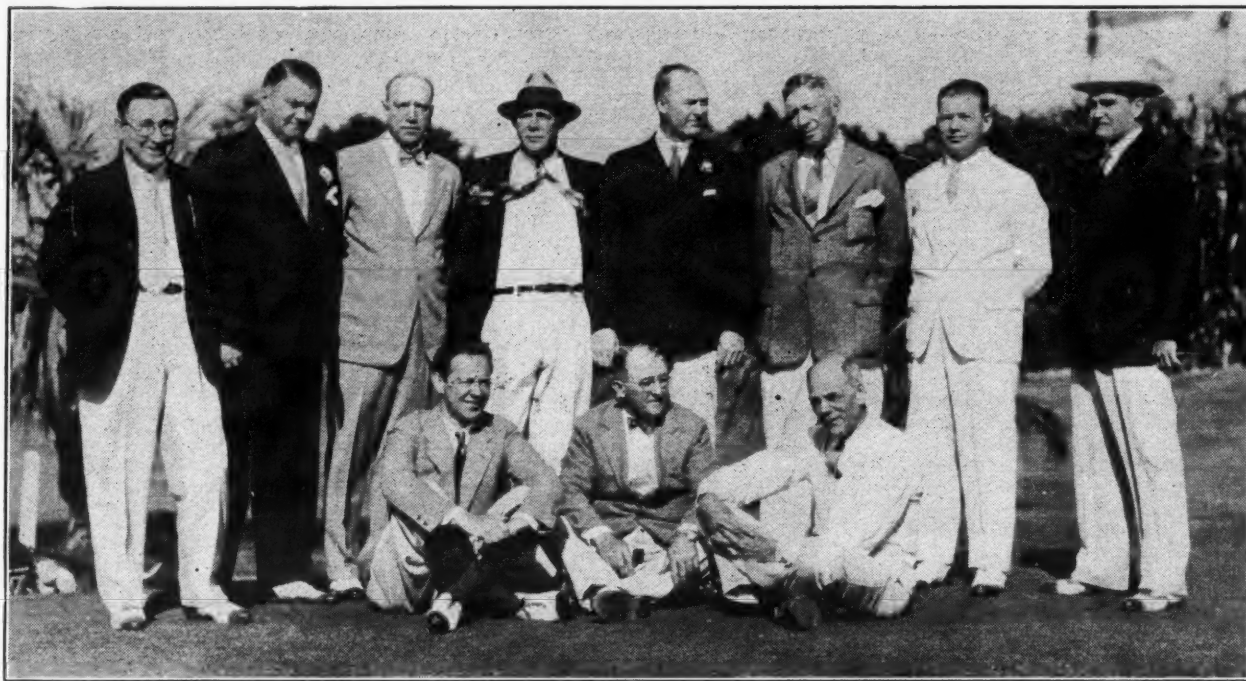
CAIRO, Egypt—A Kelvinator electric refrigerator has been installed in the shadow of the pyramids of Egypt.

Purchased at the order of the minister of education here, the refrigerator is now operating in the chemistry department of the Royal School of Engineering at Giza.

FAMOUS EYE SURGEON BUYS FRIGIDAIRE

OSSINING, N. Y.—Dr. Ervin Torok, famous eye surgeon, recently purchased a 13-cu. ft. Frigidaire porcelain model from the B. & M. Electrical Co.

After Bobby Jones' Party



After attending the formal opening of Bobby Jones' new golf course at Augusta, Ga., many members of the official party spent a few days at Miami Beach, playing golf, fishing, or otherwise enjoying the climate. Standing, left to right, B. C. Forbes, editor of Forbes' Magazine and financial writer; Charles Francis Coe, author, magazine writer, and expert criminologist; W. B. Robinson, legal counsel for Cities Service Co.; Grantland Rice, sports writer and editor of American Golfer; W. Alton Jones, executive vice president of Cities Service Co. and former president of the National Electric Light Association; John N. Wheeler, president of the North American Newspaper Alliance and the Bell Newspaper Syndicate; Lou R. Maxon, president, Maxon, Inc., advertising agency which has the General Electric refrigerator and electric kitchen, and the Hotpoint range accounts; Bruce Barton, magazine writer and senior member of Batten, Barton, Durstine and Osborne, advertising agency. Seated—T. K. Quinn, vice president, General Electric Co.; Paul Patterson, publisher, Baltimore Sun; and Rex Cole, New York distributor of General Electric appliances. On the editor's page in this issue (page 2) will be found an account of an episode in a hunting trip taken by Rex Cole and Grantland Rice during their southern sojourn.

WHOLESALE SCHOOLS OF LEONARD CLOSE

ATLANTA—The nation-wide series of sales schools, launched Nov. 28 by the Leonard Refrigerator Co., came to an official close here with 22 representatives of southern and southeastern distributorships in attendance.

R. I. Petrie, general sales manager, with Merchandising Director A. M. Taylor, has been conducting the schools in the East, the Middle West, and the South.

In attendance at the Atlanta school were the following distributors' representatives:

George L. Washington, I. N. Lozier, H. L. Gilham, and P. C. Gilham, Jr., Gilham Electric Co., Atlanta; James B. Young, L. T. Hudson, and George A. Gardner, McWhorter, Weaver & Co., Nashville.

F. E. Clinton and A. R. Baylor, Glasgow-Allison Co., Charlotte, N. C.; G. M. Reid, Jr., and O. P. Emblun, Gas Engine & Electric Co., Charleston, S. C.; Frank Trevena and Lee Ross, S. M. McClung Co., Knoxville, Tenn.

F. M. Bultman and J. F. Greenawalt, Cain Radio Co., Jacksonville, Fla.; John T. Newsome, J. C. Condon, W. L. McAllister, and L. F. Stein, Watts Newsome Co., Birmingham, Ala.; J. L. Wilbanks, Chattanooga; Joe May, Leonard district service manager, and B. E. White, Leonard district manager.

Mr. Petrie and Mr. Taylor arrived in Atlanta with reports of a school held the preceding two days at Cincinnati, where 24 "students" were in attendance.

Those who were present and the companies they represented were:

Sid Steinau, Phil Eigelbach, Clyde Williams, Fred A. Hendrix, Fred Roark, John Schaefer, Carl J. Narz, and S. A. Mason, Smith Radio Corp., Louisville.

William L. Bischoff, William Bergman, H. F. Lynch, and J. E. Dolohan, Marietta Chair Co., Cincinnati; Paul D. Cave, and Jack Cain, Capital Paper Co., Indianapolis; F. G. Shephard, Paul L. Thornburg, and Carl E. Park, Foster-Thornburg Hardware Co., Huntington, W. Va.

C. H. Lines and Miss N. Hartman, Fort Wayne, Ind.; R. Crum, Decatur, Ill.; Frank Moening, Donald Lithographing Co., Newport, Ky.; John P. Dietz, Leonard district service manager; and Lee Stratton and S. D. Camper, Leonard district managers.

J. J. O'Neill, new business manager for the Refrigeration Discount Corp., had an active part in the conduct of both schools.

REX COLE SALESMEN GET 2 REPLACEMENT ORDERS

NEW YORK CITY—Apartment house salesmen for Rex Cole, Inc., General Electric refrigerator distributor here, secured two large replacement orders recently, according to J. J. Massimi, manager of the apartment house division.

The Dime Savings Bank in Brooklyn recently foreclosed on an apartment house which was equipped with three-months-old refrigerators. The bank ordered 42 General Electrics to replace the make installed by the former owners. Vernon Daniels was the salesman who secured the contract.

Another replacement installation was for 39 machines in a building owned by the Belstone Realty Corp. Salesman Lull was responsible for this order.

GRAYBAR VICE PRESIDENT DIES JAN. 20

GARDEN CITY, L. I., N. Y.—Leo M. Dunn, vice president of the Graybar Electric Co., died here Jan. 20. He was 59 years old. On March 10 he would have completed 47 years of continuous service with the Bell system and the Graybar company.

VON MEYER MADE COPELAND USERS DEPT. MANAGER

MT. CLEMENS, Mich.—W. G. von Meyer, formerly general manager of the Valerius Corp., soda fountain manufacturing firm of Jefferson, Wis., has been placed in charge of the newly created national users department of the commercial refrigeration division of Copeland Products, Inc., company officials have announced.

The national users department will contact organizations which are volume buyers of commercial refrigeration equipment.

VIRGINIA PUBLIC SERVICE MEN VISIT KELVINATOR

DETROIT—Robert Giedd, merchandising manager, and five supervisors of the Virginia Public Service Co., distributor at Alexandria, Va., were guests of the Kelvinator Corp. factory organization last week when they visited Detroit to discuss sales plans with Vance C. Woodcox, director of advertising and sales promotion.

G. E. EXECUTIVES GO TO ELECTRIC COOKING SCHOOL

CHICAGO—Executives and junior executives of the sales promotion, merchandising, production, distribution, and product divisions of the General Electric refrigerator department recently attended a three-day cooking school here at the Edison General Electric Appliance Co., Inc.

The first day they witnessed a demonstration of frying, roasting, broiling, and baking in and on a General Electric range by Miss Frances Weedman, director of the home economics division of the Edison G. E. company. Then each of the visitors from Cleveland broiled, fried, roasted, and baked foodstuffs.

The occasion for the cooking school was the recent formation of the specialty appliance sales department of the General Electric Co. which will handle distribution, advertising, promotion, and sale of the General Electric range, G. E. dishwasher, and G. E. kitchen under the supervision of the General Electric refrigerator department.

G. E. Distributor Gets 200 Prospects

HILLSDALE, Mich.—The Home Appliance Store, General Electric refrigerator, range, and dishwasher dealer here, for H. G. Bogart Co., G. E. distributor in Toledo, obtained more than 200 prospects and sold more than a dozen appliances as the result of a merchandising plan sponsored by the local chamber of commerce.

All merchants in the downtown area of the city took part in the advertising scheme which was known as "Window Night," reports Bogart.

During the daylight hours of "Window Night," the merchants kept their windows curtained. At 8 o'clock in the evening there was a general "unveiling."

Approximately 300 persons visited the showroom of the Home Appliance Store that night, according to Bogart. In addition to the sales made then, several more ranges and refrigerators have been sold since.

LAURIE JOINS DETROIT WESTINGHOUSE CO.

DETROIT—M. J. Laurie has assumed the duties of manager of the commercial and apartment house sales department of the local Westinghouse Electric and Supply Co. refrigeration division.

Mr. Laurie was formerly with Caswell, Inc., G. E. distributor for Michigan.

At the present time, Mr. Laurie is forming an organization to promote the sale of Westinghouse commercial refrigeration, and Westinghouse equipment for apartment house kitchens, in the Detroit metropolitan area.

Plans are also underway to set up a model all-electric kitchen, with Westinghouse refrigerator, Westinghouse flavor-zone range, and Hoosier cabinets, at the Westinghouse Electric and Supply Co. demonstration rooms here.

Your 1933 Profits Depend on Prices and Discounts

STOP trying to operate your refrigeration business without sufficient profit.

No business can stand up indefinitely under this load, as hundreds of electric refrigeration dealers learned to their regret in 1932. Prices and discounts brought about their downfall.

Too late, these merchants learned that they could not sell enough refrigerators to pay their overhead when prices were too high. . . .

Or that service and complaints more than wiped out their profit on the cheap, flimsy refrigerators. . . .

Or that their dollar profit on short-profit refrigerators was so hopelessly small that they could not build up a cash reserve—no matter how many they sold.

The shrewd, alert refrigeration merchants are today turning to Mayflower in constantly increasing numbers because—

1. The Mayflower is a proved success—

with a 13-year record that is unsurpassed for economical operation and trouble-free service.

2. This quality line is priced at popular competitive prices—yet offers extra size, extra features, extra quality which make each model a super-value.

3. It offers merchants discounts which insure a worthwhile profit. Even the price leader pays you a handsome profit.

The new Mayflower line for 1933 offers many brilliant new features and conveniences plus matchless beauty which make it the outstanding line of 1933.

If you want a just profit to show for your selling efforts in 1933 . . . if you want satisfied customers . . . if you want a complete line priced in tune with today's ideas of thrift . . . then investigate Mayflower. Write, wire or phone now for full details.

TRUPAR MANUFACTURING COMPANY
Dayton Ohio



MAYFLOWER

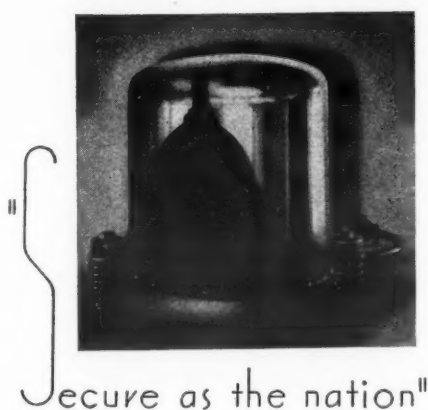
ELECTRIC REFRIGERATION

ELECTRO-SEALED

REFRIGERATION

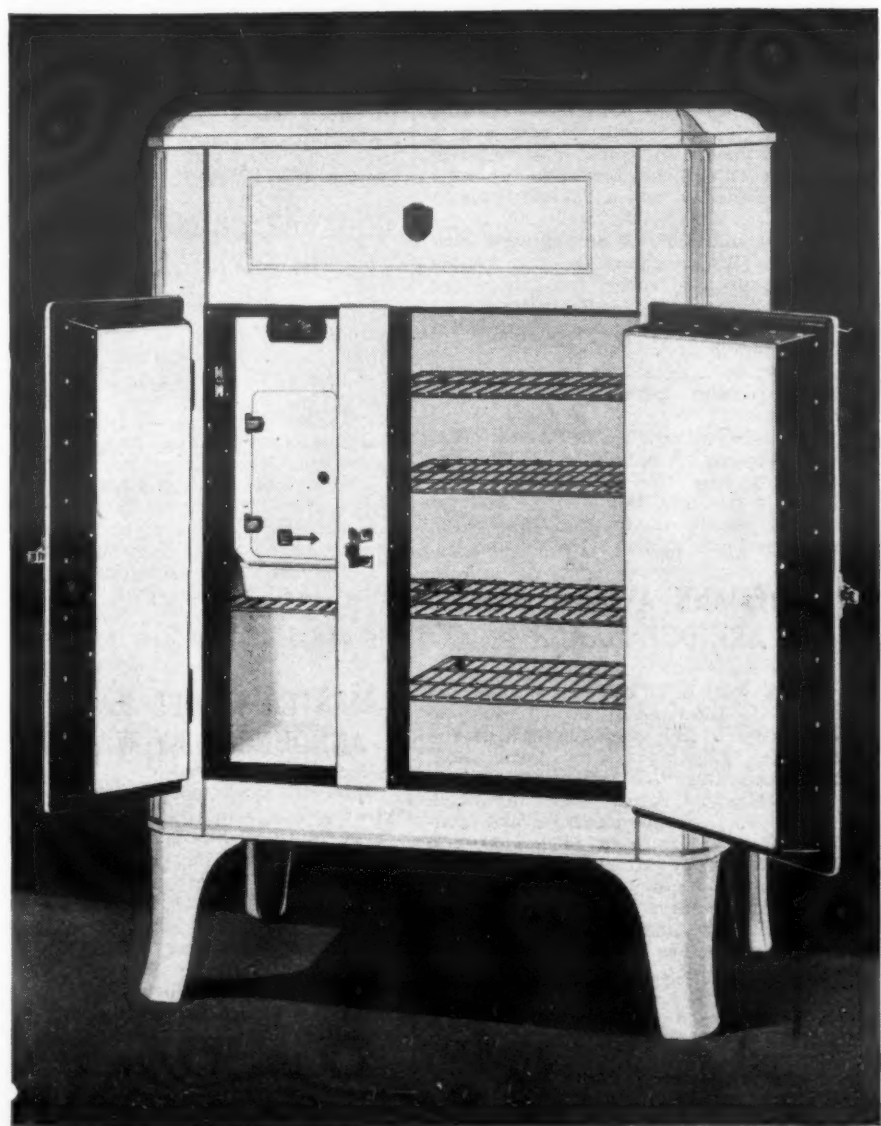
is offered only by

MAJESTIC



Secure as the nation

Model 900 Food storage area, 16.4 sq. ft. Exterior dimensions: Height, 58 $\frac{3}{4}$ in., width, 38 $\frac{3}{4}$ in., depth, 23 $\frac{7}{16}$ in., depth overall, 27 $\frac{9}{16}$ in. Five ice trays—105 ice cubes—10 pounds of ice.



PROVED REFRIGERATION! The public demands it. Majestic supplies it. A refrigerating unit so precise in manufacture, so dependable in performance, that it can safely be SEALED for life within a steel dome.

Hermetically sealed? Better than that! **ELECTRO-SEALED**—"Secure as the Nation" against injury from outside sources, against defect from inside causes. And guaranteed for 3 years!

Again Majestic dealers are in an enviable position. They're selling a refrigerator that will give service and not require service. **PROVED REFRIGERATION!** Plus a score of noteworthy features any one of which might easily influence a sale.

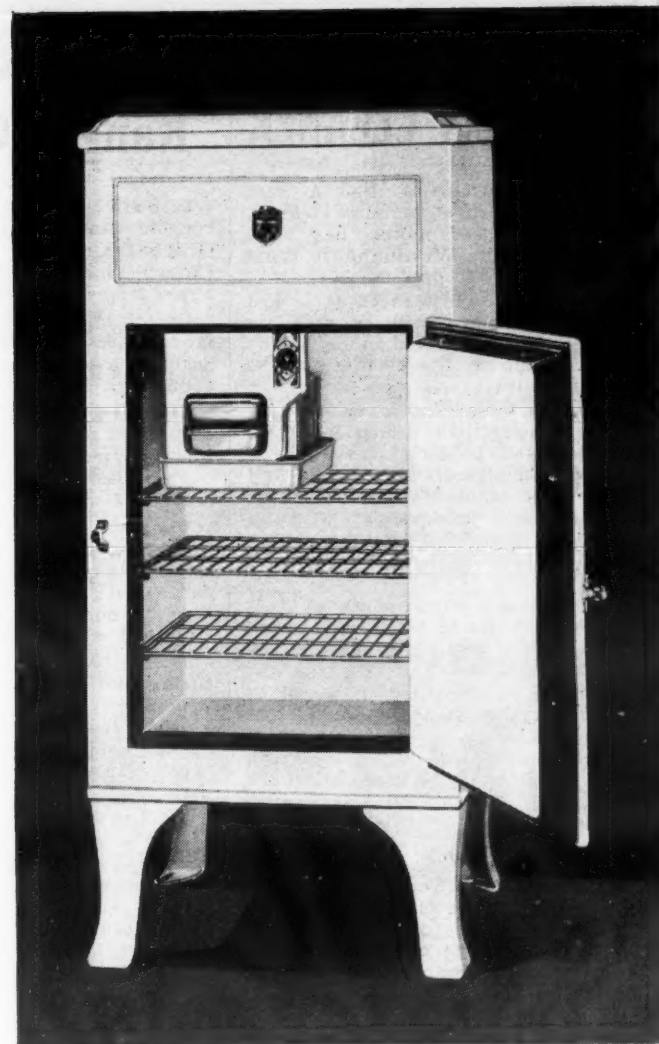
"Isolator-Wall" Construction, assuring constantly maintained food compartment temperature, and lowest operating costs.

"Stay-Kold" Defroster, maintaining a cycle of refrigeration and keeping ice cubes intact even during defrosting period.

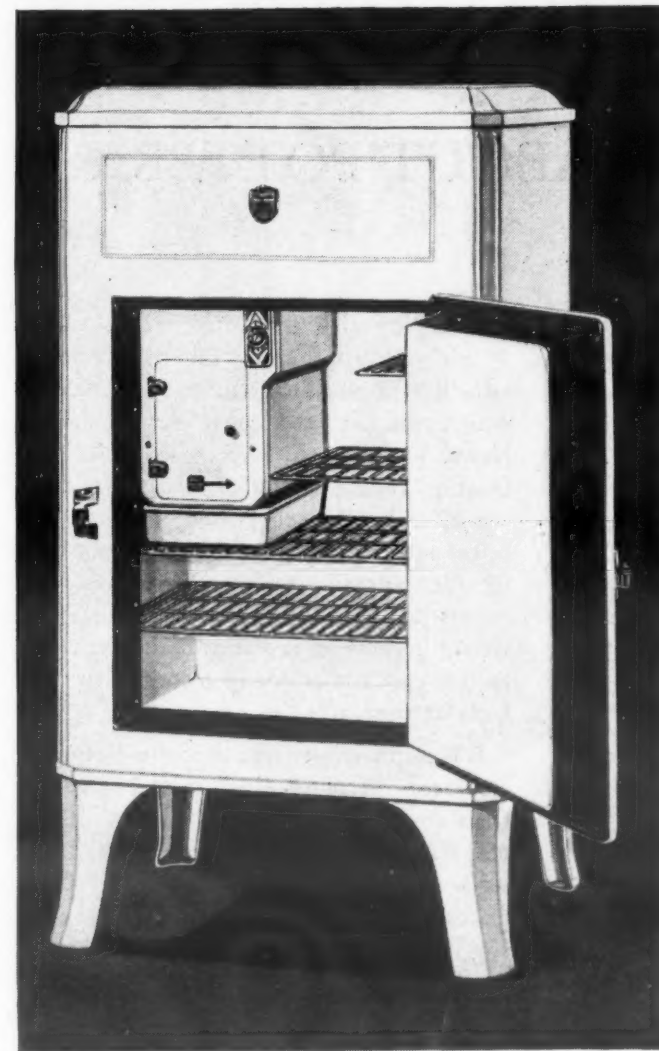
Auto-reset Protector—"Stay-Brite" Shelves—"Freeze-out" Trays—beautifully designed cabinets—and delivered prices that will put every Majestic dealer right out in front with incomparable values.

Many Majestic distributors are now holding their dealer meetings—or soon will be. Every refrigerator dealer, no matter what he is now selling, owes it to his future as a successful merchant to see these new Majestics. More than ever before "Majestic" means business!

GRIGSBY-GRUNOW COMPANY, Chicago, and affiliates, with factories at Chicago; Toronto; Bridgeport; Oakland; London, England; and Sao Paulo, Brazil
Manufacturers also of MAJESTIC RADIOS



Model 500 Food storage area, 9.68 sq. ft. Exterior dimensions: Height, 54 $\frac{3}{4}$ in., width, 24 $\frac{3}{8}$ in., depth, 20 $\frac{3}{8}$ in., depth overall, 25 $\frac{11}{16}$ in. Two ice trays—42 ice cubes—4 pounds of ice.



Model 700 Food storage area, 13.05 sq. ft. Exterior dimensions: Height, 55 $\frac{3}{8}$ in., width, 30 $\frac{3}{8}$ in., depth, 23 $\frac{7}{16}$ in., depth overall, 27 $\frac{11}{16}$ in. Four ice trays—84 ice cubes—8 pounds of ice.

Majestic

ELECTRO-SEALED

REFRIGERATION

COMPANION MERCHANDISE

LARGER MOTOR USED IN VACUUM CLEANER

EAST PITTSBURGH, Pa.—A new motor driven brush vacuum cleaner, with a large sized motor, has been introduced by the Westinghouse Electric & Mfg. Co. It lists at \$10.

The motor, which is rated at $\frac{1}{4}$ hp., with 11,000 r.p.m., will operate on either a.c. or d.c. current. Despite the size of the motor, the cleaner weighs less than 14 lbs.

The new cleaner has a number of features, among them a nozzle $1\frac{1}{4}$ in. wide, designed to clean more easily under low furniture. This nozzle and fan case are of cast aluminum alloy, and the nozzle is equipped with an extra-heavy, molded dark blue rubber bumper, preventing marred or scarred furniture.

Five different adjustments of this nozzle can be made by means of an improved lever and cam, operated by the housewife's toe.

The brush is sheathed in metal to prevent warping. It has a double row of high bristles staggered on the shaft to give a gentle sweeping and beating action. With a speed of 3,000 r.p.m., the brush is mounted on oilless bearings, and is driven by a flat rubber belt.

Four rubber wheels, with soft rubber tires vulcanized on to provide balance and stability, make this cleaner easy to guide about the room, and insures a noiseless carriage operation.

Graybar-Crawford Ranges Changed

BOSTON—Both table-top and semi-console models are included in the Graybar-Crawford line of electric ranges manufactured by Walker & Pratt Mfg. Co. of this city.

Principal features of the table-top models are the under-draft top which assures a cool work top under all conditions.

Table-top models also have triple automatic control, step-back shelf, adjustable platform lamp, illuminated oven, removable metal work-top tray, and warming compartment.

The conventional semi-console type has an adjustable platform lamp, illuminated oven, and built-in electrically controlled triple-automatic time device. A condiment set is included as standard equipment.

The Epicure is a deluxe model featuring built-in triple-automatic control which governs the cooking operation of the oven, one surface unit, built-in cooker, and an appliance outlet.

It has the adjustable platform lamp, illuminated oven, warming compartment sufficient to take entire capacity of the oven with a unit attached to a removable shelf, vertical broiler, barrel-wound type cooker built into a drawer, and a utility drawer containing condiment set, recipe, and instruction card file.

NEW FEATURES MARK MAJESTIC RADIO LINE

CHICAGO—With a price range from \$19.95 to \$139.50 (with prices slightly higher on the West Coast) for its 1933 line, Grigsby-Grunow Co. is offering for the first time, models priced under \$44.50, the previous lowest list price.

Among the features incorporated in the new line are the G-59 power output tube, the new development in a seven-prong tube, Majestic class "B" amplification, improved synchro-silent tuning, visual-lite tuning dial, delayed automatic volume control, and full range tone control.

Every receiver is a superheterodyne, using exclusive Majestic spray-shield tubes and super-dynamic speakers. Twin speakers are available in model 344, a large console model, and class "B" amplification in models 344 and 393.

There are seven models in the 1933 Majestic line, three of which are Gothic table models, and the remainder console models. The table models range in price from \$19.95 to \$43.95, and the consoles from \$49.95 to \$139.50.

G. E. TO EXTEND BURNER SALES TO MIDDLE WEST

NEW YORK CITY—Distribution of General Electric's oil furnace, which has been confined to the Eastern part of the country, will be extended to the Middle West within the near future, according to J. E. Donovan, manager of the G. E. air-conditioning department.

Dealer appointments in the Detroit area are expected shortly and this step will be followed by a similar announcement for Milwaukee and Minneapolis.

Heywood Gives a Lesson



Heywood Broun, General Electric radio master of ceremonies, shows that he knows something about electric cookery.

Kelvinator Joins Oil Burner Association

NEW YORK CITY—Kelvinator Corp., manufacturer of the Kelvinator oil burner, has been accepted into the membership of the American Oil Burner Association, according to Harry F. Tapp, executive secretary of the association.

Production of all types of distillate burners, including range, circulating heaters, stoves, and water heaters totaled approximately 280,000 units in 1932, Mr. Tapp has estimated.

Mr. Tapp has also announced that the Distillate Burner Manufacturers Association has been placed in the offices of the American Oil Burner Association, thereby effecting a closer relationship between the distillate oil burner industry and the power oil burner industry.

While the distillate group, which is made up of manufacturers of range burners and cabinet oil heaters, will continue to retain its own identity, its managing heads will be the same as the present executive staff of the A.O.B.A.

Under this set-up Mr. Tapp becomes treasurer of the D.B.M.A. and Arthur W. Clark, managing secretary of the dealer division of the A.O.B.A., becomes managing secretary of the distillate industry's organization.

MAJESTIC USES NEW IDEAS IN RADIO SALES PROMOTION

CHICAGO—New ideas, both in design and in the text, permeate Majestic's new series of radio direct mail pieces for use by Majestic dealers.

One of the new sets of direct mail is a three-piece affair which features a tie-in with the Wrigley and Lucky Strike radio programs.

To the first piece, which ties in with the Wrigley program, is attached a piece of Spearmint gum. The Majestic copy in this piece features the new Majestic models and a special trade-in offer.

The second piece is embellished with a Lucky Strike cigarette, and invites the prospect to come into the store and look over the Majestic line.

The third piece carries a card and a small pencil as an inducement to the prospect to take action on the special trade-in offer being made by the dealer.

"Conversational Facts About Majestic Radios" is a booklet which goes into not only the details of special Majestic features, but also methods of factory operation and facts about the Majestic sales and service set-ups.

LINDEMANN AWARD ESSAYS ARE DUE MARCH 1

NEW YORK CITY—All entries for the A. L. Lindemann award must be submitted to the headquarters of the National Electric Light Association, 420 Lexington Ave., this city, on or before March 1, it has been announced.

The A. L. Lindemann award consists of cash prizes of \$150, \$100, and \$50, donated by Mr. Lindemann, vice president and general manager of the A. J. Lindemann and Hoverson Co., electric range manufacturer, for the most meritorious papers by employees of electric light and power company members of the N.E.L.A. dealing with the advantages of electric cookery.

The subject of the essay is to be, "The Advantages of Electric Cookery for Domestic Purposes."

The essays should be limited to 1,000 words.

ESTATE RANGE LINE TO INCLUDE FOUR MODELS

HAMILTON, Ohio—Four standard models, including two of the table-top type and two of the cabinet type, are included in the line of Estate ranges manufactured by the Estate Stove Co. of this city.

Model KE-1162-T is a combination range, cupboard, and kitchen table, a style originated by Estate.

The oven measures 16x20x13 in., and has a single dial control. Upper oven unit is 1,000 watts, and the lower, 2,400 watts. There is a separate drawer-type broiler with a 2,000-watt unit.

The Estalloy metal cooking top is equipped with four high-speed Estate open-type units, 100, 1,250, 1,500, and 200 watts, respectively. Load-balancing switches are used.

This model has two utensil drawers, one equipped with a four-piece condiment set and knife sharpener. The cooking top height is adjustable from 36 to 38 in.

Model KE-1164-T is similar to model KE-1162-T but has a 1,750-watt unit in its broiler compartment which is located in the top of the oven, a mottled porcelain enamel cooking top, and only one utensil drawer.

Model E-762-T is a modernized version of the cabinet-type range with lowered oven to permit more light on the cooking top.

The cooking and oven units are the same as those on model KE-1164-T. The cooking top measures 22 $\frac{1}{2}$ x22 $\frac{1}{2}$ in. plus 1 in. recess for the rear splasher. Porcelain enamel finish may be had in different colors. This model has two utensil drawers.

Model E-1624-T is the leader of a line of Estate cabinet-type ranges for the mass market. It is finished in white porcelain enamel.

The oven measures 16x17 $\frac{1}{2}$ x13 in., and is equipped with an 800-watt upper unit, and a 2,200-watt lower unit. An independent unit broiler in the top of the oven has a 1,750-watt unit.

Cooking top units are the same as the units used on the other models. Cooking-top height is 32 in.

COOKERY COUNCILS FORMED IN SEVERAL CITIES

NEW YORK CITY—Local cookery councils are being formed in major cities in widely scattered sections of the country, according to reports issued by the National Electric Cookery Council.

Councils are being formed in the following cities:

Philadelphia, Boston, St. Louis, Oklahoma City, Milwaukee, San Francisco, Los Angeles, Portland, Ore.; Brockton, Mass.; Akron, Ohio; Youngstown, Ohio.

Columbus, Ohio; Reading, Pa.; Lebanon, Pa.; Easton, Pa.; Yorkhaven, Pa.; Richmond, Va.; Norfolk, Va.; Dover, N. J.; Findlay, Ohio; Beaumont, Tex.

MASTER MODEL RANGE IS ANNOUNCED BY WALDORF

DETROIT—A new master model electric range in the Waldorf line, for large families, has been introduced by Electromaster, Inc., manufacturer of Waldorf and Electrochef ranges.

Model KM-34, as it has been named, has two ovens and a storage compartment. The cooking table, equipped with four elements, is 32 $\frac{1}{4}$ in. deep and 57 in. wide. There are two convenience outlets and two clock receptacles.

The range is finished in three-coat white porcelain enamel. It will list at less than \$200, Electromaster officials announce.

LET'S CORRECT a False Impression ABOUT POTTER REFRIGERATOR PRICES!

IN keeping with our policy of frankness, with all cards on the table, let us admit that in the last two advertisements which we ran in Electric Refrigeration News, we seem to have created the impression among a number of readers that we have boldly set Potter Refrigerator prices somewhat higher than other makes in order to give extra money-making discounts to distributors and dealers. This wrong impression is due to faulty writing on our part and is not in accord with the facts as they actually exist.

It is emphatically true that our "set-up" embraces discounts and profits greater than are now being offered by any other manufacturer in the industry. But this has not been attained through a raise in price! Our prices are as low as could be offered for similar merchandise by the greatest volume producers in the industry today, and even though they were able to build parallel merchandise, their discounts could be no greater than they are now offering.

We have been able to accomplish this extra quality and these extra discounts due to our patented design, plus the fact that our manufacturing and corporate set-up embraces a business structure having a phenomenally low overhead. Our mer-

chandise carries a profit to us, with an overhead cost many times less than any other manufacturer with whom we are acquainted in the business. It is this saving in overhead which we are passing on to our distributors and dealers and which has made possible the soundest and most attractive money-making offer for distributors and dealers this industry has ever seen.

It has taken us six years of effort and large capital expenditure to reach this position, and we desire a correct interpretation of what our sound planning and effort have accomplished.

If you really want to make money this year, let us suggest that there is only one way to get a complete understanding of the facts surrounding this unusual situation, and that is by getting in direct touch with us. May we also suggest that time is a factor in money-making and it would be the height of wisdom to act now.

J. C. Potter
President

TRICOLD REFRIGERATOR CORP.
296 Delaware Ave. Buffalo, N. Y.

If you have not already received your copy of our booklet—Refrigeration at Cross-Roads, write for it. You will find it the most interesting discussion you have ever read on trends in the refrigeration industry.

ADVERTISING AND SALES PROMOTION

SIX MANUFACTURERS SPENT \$3,514,195 IN MAGAZINES IN 1932

CHICAGO—Six electric refrigeration manufacturers invested \$3,514,195 in national magazine advertising in 1932, as compared with \$4,573,014 in 1931, according to figures compiled by National Advertising Records, published by the Advertising Record Co. here.

These figures, however, do not include all the electric refrigeration manufacturers, but only those companies whose expenditures ranked them among the 150 leading magazine advertisers in 1932, according to the company.

Furthermore, these figures include the advertising expenditures of the General Electric Co. and the Westinghouse Electric & Mfg. Co., whose appropriations are for other electrical appliances as well as electric refrigerators.

Manufacturers whose advertising investment is included in the above figures are: Servel, Inc. (including Electrolux Refrigerator Sales, Inc., and Servel Sales, Inc.); Frigidaire Corp.; Kelvinator Corp. (including Leonard Refrigerator Co.); Refrigeration Bureau of National Electric Light Association; General Electric Co. (including Edison General Electric Appliance Co., Inc.); and Westinghouse Electric & Mfg. Co.

Following is a table of the magazine advertising expenditures of these companies for 1931 and 1932:

	1932	1931
Servel, Inc.	\$ 214,390	\$ 287,750
Including—		
Electrolux Refrigerator		
Sales, Inc.	159,990	184,250
Servel Sales, Inc.	54,400	103,500
General Electric Co.	1,644,720	2,401,891
Including—		
General Electric Co.	1,441,570	2,297,291
Edison General Electric		
Appliance Co., Inc.	203,150	104,600
Frigidaire Corp.	588,625	774,565
Kelvinator Corp.	364,060	381,408
Including—		
Kelvinator Corp.	270,060	306,550
Leonard		
Refrigerator Co.	94,000	74,858
National Electric		
Light Association ...	155,170	168,200
Westinghouse Electric		
& Mfg. Co.	547,230	559,200

KELVINATOR ADOPTS RED AND BLUE WINDOW SIGN

DETROIT—An official Kelvinator sign—red and blue Neon—has been chosen by officials of Kelvinator Corp. to identify all Kelvinator outlets, according to Vance C. Woodcox, director of advertising and sales promotion.

The emblem is 36 in. long and 12 in. high. The word "Kelvinator" appears in letters 5 in. tall in red Neon. Above and below the trade name are two blue Neon bars.

Order was let to Neon Products, Inc., of Lima, Ohio, and provision has been made to supply as many as 3,000 of the signs, if demands from distributors and dealers warrant manufacture of this number.

Signs will be included in the regular Kelvinator window display service available to dealers, and no additional charge for use of the signs will be made to dealers subscribing to the window service.

ADAMS MANAGES PROMOTION OF WESTINGHOUSE SUPPLY

NEW YORK CITY—Marshall Adams, former sales promotion manager of the merchandising department of the Westinghouse Electric & Mfg. Co., in Mansfield, Ohio, has been appointed sales promotion manager of the Westinghouse Electric Supply Co. here.

Mr. Adams has been located at the New York headquarters of the supply company since June, devoting his time to merchandising Westinghouse products exclusively.

In his new position, he will be responsible for the promotion of all lines handled by the supply company in all its branches.

BRENNAN JOINS DETROIT MOTION PICTURE CO.

DETROIT—J. A. Brennan, formerly in charge of motion picture activities for Campbell-Ewald Co., advertising agency here, has taken over the duties of account executive for the Metropolitan Motion Picture Co., of this city, producer of RCA photophone commercial sound pictures.

Miller Gives Hints For Preparing Dealer Copy

NEW YORK CITY—Eleven suggestions for creating advertisements which dealers will use are offered by John H. Miller of the Frank Presbrey Co., in a recent article in *Printers' Ink*.

He states, first, "get the retailer's point of view. Remember that his newspaper advertising is usually expected to bring in business the next day. Therefore, 'institutional' copy in most instances is taboo."

"2. Don't try to hog all the space for your own trade-mark, slogan, etc. This has been sure death for many a dealer's advertising services."

"3. Feature only new and desirable merchandise. Progressive retailers,

particularly department stores, will not devote space to things which are not new, or for which there is not an active demand.

"4. Generally speaking, dealer advertisements should not be larger than two columns wide, with the depth dependent upon the subject. There are exceptions to this, of course, as in the case of large-unit sale items such as refrigerators, automobiles, radios, etc."

"It is a waste of time to supply large-sized advertisements on the theory that they will be cut down anyway. By starting on a reasonable basis you are more likely to succeed."

"5. Prepare new advertisements at frequent intervals, rather than once or twice a year. They will seem newer and fresher to the retailer and his advertising department, and actually will be more up-to-date because you will be able to take advantage of changes in style trends, news events, etc. This eliminates the appearance of 'boiler plate' promotion."

"6. It is good policy to keep dealer advertisements as simple as possible. This does not mean that opportunities for originality in copy should be passed up, but rather the avoidance of 'tricks' in typography and illustrations. The reason for this is that odd arrangements will not harmonize with the dealer's regular advertising."

"7. Keep your advertisements in

tune with current trends in retail advertising. Just now there is a decided preference for copy written in a light, unconventional vein."

"8. Be sure that your illustrations will reproduce under all conditions. This is particularly important when photographs are used. And remember that there is a big difference in the mechanical facilities of different papers."

"9. When two-column advertisements are supplied, illustrations and trade marks should be kept within the one-column space (by letting the newspaper set the copy) without going to the trouble and expense of making over cuts."

"10. In sending advertisements to large stores, address your material to the head of the particular department involved rather than the advertising department."

"11. Always send at least one proof with every mat or electro."

PENNOCK JOINS FRANKELITE

CLEVELAND—P. L. Pennock, formerly district sales representative for the Crosley Radio Corp. of Cincinnati, has taken the position of sales promotion manager of the Frankelite Co. here, manufacturer of Diamond lighting equipment, which handles Crosley radios and refrigerators.

ELECTROLUX DEALER USES STUFFERS TO OPEN DOORS

LOS ANGELES—The Hart Appliance Co., Electrolux dealer here, makes use of Electrolux envelope stuffers to prepare the field in advance of the salesman's call, according to Mr. Hart, president of the company.

At six o'clock each morning, Hart and his partner drive to the section of the city they intend to canvass during the day. They distribute Electrolux literature from house to house, either putting the stuffer inside the morning paper, or attaching it to the milk bottles with a rubber band.

If no paper or milk bottle is at the door, they put the stuffer in the mail box. Between 9 and 12 o'clock, they call on each of the housewives at whose homes the literature has been placed.

KELVINATOR TELLS STORY OF COMPANY

DETROIT—Story of the company behind Kelvinator equipment will be told to the company's sales organization in "Back of the Product," a new feature in *Cold Facts*.

NOW—there's no need to Sell 8 refrigerators



to Sell ALL of these features

SELL THEM ALL IN

SPARTON

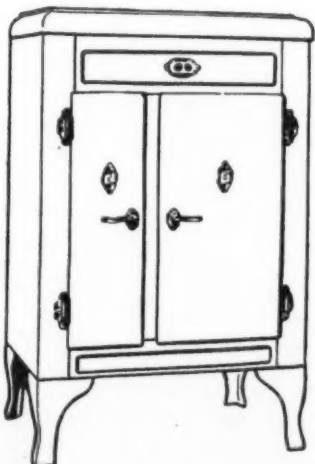
—the *All-Feature* Refrigerator

REFRIGERATOR dealers have been in a dilemma. Customers come into their stores asking for this feature and that feature. Not being able to supply them, many dealers have been almost tempted to tell customers, "You can't get everything in one refrigerator." BUT NOW YOU CAN. The new Sparton **ALL-feature** refrigerator offers to your customers all the features and advantages they need and want. Here is a host of features and talking points. Sparton is immediately accepted by housewives, first, because it is the smartest refrigerator she has yet seen and second, because it incorporates everything she wants.

Sparton is the line to sell in 1933 if you are looking ahead toward volume and profit. Sparton is backed by a strong 33-year old organization. "Sparton Quality" has been a by-word in homes for years. Write or wire immediately for full information about the new Sparton line. The Sparks-Withington Company, Jackson, Mich. Sparton of Canada, Ltd., London, Ontario.

\$114⁵⁰

F. o. b. factory, TAX PAID



ELECTRIC REFRIGERATION NEWS

The Newspaper of the Industry

Published Every Week by
BUSINESS NEWS PUBLISHING CO.

Also publishers of REFRIGERATED FOOD NEWS (monthly) and REFRIGERATION DIRECTORY and MARKET DATA BOOK (annual) 550 Maccabees Building, Woodward Ave. and Putnam St. Detroit, Michigan. Telephones: Columbia 4242-4243-4244

Subscription Rates:
U. S. and Possessions and countries in Pan-American Postal Union: \$3.00 per year; 2 years for \$5.00
Canada: \$6.00 per year (U. S. Money)
All Other Countries: \$5.00 per year
Advertising Rates on Request

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VOL. 8, No. 6, SERIAL NO. 203, FEBRUARY 8, 1933

EDITORIAL AIMS

- To encourage the development of the art.
- To promote ethical practices in the business.
- To foster friendly relations throughout the industry.
- To provide a clearing house for new methods and ideas.
- To broadcast the technical, commercial and personal news of the field.

New York Leads

MOST SIGNIFICANT figure in the Electric Refrigeration Bureau's estimate of household electric refrigerator sales by states in 1932 is that assigned to New York—186,536. This, roughly, is one-fourth the total for all the United States!

Second ranking state is Illinois, with 57,390; while New Jersey stands third, with 42,734. New Jersey, it should be noted, is practically a suburb of New York City; for its richest trading areas are those in which commuting New Yorkers live, and those which are supported by industries which are an overflow from America's metropolis. If we were to combine the New York and New Jersey figures, we should obtain a sum which would represent close to one-third of the Bureau's total for the United States.

It might be presumed that the Bureau's figures for the New York territory should be reasonably accurate. New York public utilities work closely with the organization which sponsors the Bureau. And having headquarters in New York City, the Bureau has been close to sources of information on New York refrigerator sales.

How the Figures Are Compiled

These Bureau statistics, as we understand it, are compiled in a manner suggestive of the selection of an All-American football team. Inasmuch as no one man can possibly see more than a small fraction of the nation's football teams in action during one season, the chooser of All-Americans relies upon the reports and recommendations of local scribes and authorities in various sections of the country. Likewise, Bureau officials at headquarters receive sales reports from regional and state directors. These men, in turn, obtain figures from distributors in their respective territories. From these reports estimated statistics are prepared.

Naturally, in a system of this sort there are a number of blank spots. Even in the states in which the finest type of cooperation has been developed, there are distributors who do not turn in figures on their own operations. Other distributors may supply incorrect figures. And the reports record little of the sales made by the so-called "cats and dogs."

Helps Executives Plan Campaigns

Even so, the Bureau estimate should be accepted for what it is worth—an honest, sincere attempt made under difficulties to arrive at a geographical distribution of the year's sales of electric refrigerators.

That these estimates are valuable will probably be questioned by few. For instance, the

showing of New York in comparison with the rest of the country will undoubtedly be significant to sales managers who are planning their 1933 campaigns.

Many individual manufacturers have been aware that a great percentage of their sales went into the New York territory this year. These figures indicate that the experience must have been mutual with most manufacturers.

Whether this means that concentration of promotional effort upon the New York territory will be most profitable this year, or that the New York market is being squeezed dry rapidly and promotional efforts had best be applied elsewhere, is for the sales manager to decide after he has surveyed the situation at first hand or through the eyes of his field men. An investigation, however, should be in order.

F. M. Cockrell's figures on the industry's total sales during 1932 are now being compiled, and may be expected in the near future.

A New Idea?

JOHN KNAPP, vice president in charge of sales of the Norge Corp., is telling distributors and dealers the length and breadth of the land that the new Norge cabinets are heralding "a new era" in electric refrigeration. The "new era" Mr. Knapp refers to is that of style.

And he may be right. Not that the Norge cabinets alone are ushering in "a new era"—a general movement must become noticeable before an era can be said to be dawning. That the movement toward style does seem to be attaining almost general proportions, however, is signified by the 1933 lines of many electric refrigerator manufacturers.

In this issue of ELECTRIC REFRIGERATION NEWS may be found news of the new Copeland models, which are radically different from anything that highly conservative organization has ever put out previously, and which have a highly distinctive appearance.

More Refinements May Be Expected

Other recent issues of the NEWS have carried stories and pictures of other 1933 electric refrigerator lines which feature styled cabinets, such as Gibson (see picture in advertisement on page 4 of this issue), Norge, Majestic, Grunow, and Crosley. In the near future it is more than possible that other manufacturers will announce models with newly designed exteriors.

Electric refrigeration manufacturers are unusually sensitive to public demand, because the great volume of refrigerators is sold directly to homes by house-to-house salesmen—who report back to headquarters the reactions of prospects. Hence it may be taken for granted that the new styled cabinets of 1933 represent manufacturers' answer to the voiced desires and tastes of ultimate consumers.

Women are admittedly style conscious. Appearance, modish fashions, mean much to them. And women, of course, have a great deal to say regarding the purchase of an electric refrigerator. They may not be able to understand even a good sales presentation of a unit's mechanical features, but they know a good-looking job when they see one. Other things being equal, it seems likely that they might lean toward a refrigerator with eye-appeal when it comes to making a choice.

Style the Big News of 1933

Increasing importance of the department store as a retailer of electric refrigerators is also setting manufacturers to thinking about style. When several makes of refrigerators are lined up together—an old department store practice—a styled cabinet will stand out from the rest. Also, department store clerks rarely seem to be very well trained in refrigeration sales presentations; so a refrigerator which will "sell itself" by its appearance becomes almost an indubitable asset.

Last year price was the big news. This year it apparently is style. And if the movement toward style continues to the point where old users of electric refrigeration will begin to desire strongly the better-looking new cabinets, John Knapp's "new era" undoubtedly will have arrived.

LETTERS

Automobile Experience

Evansville, Ind.
Jan. 21, 1933.

Editor:

It is with great interest that I weekly read your esteemed paper but in this week's issue it is necessary that I take exception to a condition which you are furthering. I refer particularly to the double spread ad on pages 6 and 7 of the Jan. 18 issue which is commented upon very profusely in your editorial column but which is completely questionable in view of the last paragraph in the definite description of this product which I herewith quote:

"Cabinets are furnished by Rex, compressors by Universal Cooler. Howell capacitor motors, and Balsam Wool insulation are specified for all models. Shipments will be made from Detroit, where the complete refrigerators will be assembled in the Universal Cooler plant."

It may be possible for the above company to be so far ahead in engineering brains and business knowledge to write such an advertisement but it is hardly possible for any one to conceive that all of these things can be accomplished so completely when said concern doesn't build any of their own product.

It seems to me that the electric refrigeration industry could well profit by the experience of the automotive industry insofar as assembled product is concerned as a quick review of the mortality in the automotive industry over the past 15 years shows definitely what happened to those companies who had nothing to sell but the product of other companies.

Please take all of the above constructively as I do not question but what the Tri-Cold company really feels that they have something to sell and are thereby permitted to "ballyhoo" it all they can as their interest is purely that of dollar profit as compared with dollars invested.

C. H. TANGER.

Whose Distributors?

Leonard Refrigerator Co.
14260 Plymouth Road, Detroit
Jan. 24, 1933.

Editor:

In the Jan. 18 issue of ELECTRIC REFRIGERATION NEWS, you published a list of newly appointed Grunow distributors.

Included are Cain Radio Co., Inc., Jacksonville, Fla., and Radio Specialty Corp., New Orleans.

It so happens that both of these accounts are distributing Leonard electric refrigerators and in the case of the Cain Radio Co., we have definite advice from Mr. F. M. Bultman of that organization, that there is no basis for the announcement.

Will you please investigate this matter and see that the statement is retracted in an early issue of your publication?

R. R. LUDINGTON,
Assistant sales manager.

Service Men

Peerless Ice Machine Co.
515 W. 35th St., Chicago
Jan. 26, 1933.

Editor:

We are just in receipt of your Jan. 25 edition. Congratulations. The list of service men will come in quite handy to us.

CHARLES C. KRITZER.

In Tune with Times

J. J. Pocock, Inc.
Frigidaire Distributor
Philadelphia
Jan. 26, 1933.

Editor:

We like the way you keep in tune with the times from a refrigeration standpoint, and sincerely feel that your paper does an outstanding job for our industry.

L. W. SMITH,
Advertising Dept.

Short-Term Guarantees

Gibson Electric Refrigerator Corp.
Greenville, Mich.
Jan. 19, 1933.

Editor:

In case you did not receive a copy of the letter issued by the Syndicate Sales Managers' Association, I am enclosing the copy which we received for your information, wherein you will note that they recommend the one-year warranty.

CHARLES J. GIBSON,
President.

Charles H. Tenney & Co.
89 Broad St., Boston
Jan. 16, 1933.

Mr. Charles J. Gibson, President
Gibson Electric Refrigerator Corp.
Greenville, Mich.

Dear Sir:

At a meeting of the Syndicate Sales Managers' Association held Jan. 6,

1933, it was moved, duly seconded and unanimously passed that that association reaffirms its position that the interests of the electrical industry as a whole are best served when mechanical refrigerators are sold with a guarantee or warranty that continues only for some such short period as one year.

As secretary of the Syndicate Sales Managers' Association, I was directed to transmit to you, as a manufacturer of mechanical refrigerators, the information that such has been the action of that association.

CYRUS BARNES,
Secretary, Syndicate Sales
Managers' Association.

'Flabbergasted'

Tricold Refrigerator Corp.
Buffalo, N. Y.

Jan. 16, 1932.

Editor:

This note is prompted by a very human curiosity and also a sincere desire to fully understand you. Before I explain myself, allow me to emphasize that I am 100 per cent sold on your utter sincerity.

It is because I am so sold on your sincerity that I now stand in a position of wonderment regarding your editorial in the Jan. 11 issue of ELECTRIC REFRIGERATION NEWS. In this editorial which impresses me as being a boldly honest and rather complete picture of the industry for 1932, you enumerated the mechanical advancements made and announced to the public during this past year, but made no mention of our epoch-making contribution to household refrigeration. When I compare the mechanical advancement which we announced with such other improvements as you mentioned in your article, I am indeed in a "flabbergasted" state of mind.

You see I am not kicking nor registering a complaint, strange as it may seem, about what you put in your paper or leave out, but I am trying to understand the whys and wherefors. In my peculiar philosophy governing human relations, I believe if we can really understand the other fellow, sound relations can always exist even when opinions at times take diametrically opposite directions.

T. IRVING POTTER.

Statistics

COPY

National Electrical Manufacturers
Association
570 Lexington Ave., New York City
Jan. 31, 1933.

Mr. B. Chapman

Traders Bond & Share Co.,
1 LaSalle St., Chicago.

Dear Mr. Chapman:

Our suggestion as a source for data to be used in your review of the refrigerator industry, is that you obtain copies of the last couple issues of ELECTRIC REFRIGERATION NEWS which is published at 550 Maccabees Bldg., Detroit.

The statistical data which we compile at Nema is also published by ELECTRIC REFRIGERATION NEWS in connection with additional statistics which they collect from companies that are not members of Nema. They also publish a book which is a combined directory and compilation of statistics and I think that you would find this interesting.

GLENN MUFFLY.

Outstanding

General Securities Co.
1001 Nashville Trust Bldg.
Nashville, Tenn.
Jan. 23, 1933.

Staff Writer:

You are complimented on the complete and accurate manner in which you covered the Norge distributors meeting in Muskegon. As stated to you when in Muskegon, I consider ELECTRIC REFRIGERATION NEWS one of the outstanding trade journals, and I have in the past and expect to continue to suggest and recommend to all electric refrigerator dealers financing their installment sales through our office that they promptly subscribe to and read every issue of your paper. In my opinion, it is to their interest.

J. O. SMITH,
Manager.

Kind Words Dept.

"I am an electric refrigerator salesman connected with W. A. Ramsay, Ltd., and have been reading your publications whenever I could get hold of them but now decided to personally become a subscriber."—M. Kumalshi, 619 Tenth Ave., Honolulu, Hawaii.

"Among several fields with which I have been connected, you alone blanket your industry."—Fred A. Cornell, 537 E. Delavan Ave., Buffalo.

"I just couldn't get along without this paper. Its the source of all information in electric refrigeration. It carries plenty of it. It is inspirational."—John L. Petaccia, 1306 Elm St., Utica, N. Y.

"Could not be happy without REFRIGERATION NEWS." Harry E. Fatzinger, branch manager, Refrigeration Products, Ltd., 1185 Mission St., San Francisco.

HEADS OF MAJESTIC DEPARTMENTS MEET

CHICAGO—At a round table dinner and conference held in the Chicago Athletic club recently, department heads of the refrigeration division of Grigsby-Grunow Co. outlined the work of their departments during the past year and presented plans for 1933, according to Charles R. Klopp, field sales manager of the refrigeration division.

John F. Ditzell, assistant vice president in charge of refrigeration, opened the meeting with a description of the accomplishments of the refrigeration division during 1932. He then went on to point out that the Grigsby-Grunow Co. would lay greater stress on satisfying the ultimate consumer than has been the case in the past.

A particular attempt was made in the short talks of the executives to point out how the various departments of the refrigeration division fitted together, Klopp reports.

Among those present were: R. C. Roling, assistant vice president in charge of production; M. D. Harrison, secretary and assistant treasurer; Earl L. Hadley, advertising manager; A. H. Kessler, manager of the service department of the refrigeration division.

F. P. Hart, assistant general sales manager; R. C. Haimbaugh, chief engineer of the refrigeration division; A. R. Johnson, sales promotion manager; C. A. Brinkert, assistant chief engineer; G. B. Whitfield, accounting department.

W. Teeter, assistant chief engineer of the refrigeration department; A. Charles, superintendent of the refrigerator cabinet plant; R. L. Owen, chief inspector of the refrigeration department; H. R. Geise, production manager.

Fred H. Osborne, engineering department; W. F. Sawyer, superintendent of process; T. Wenzel, chief draftsman; C. E. Johnson, assistant general works manager; T. G. Shelin, engineering department; and C. Gasser, general foreman of plant six.

QUOTA BUSTERS ELECT FIELDSTEEL AS 'RANCHER'

MANSFIELD, Ohio—The Circle W Quota Busters' club, national organization of highest ranking Westinghouse refrigerator salesmen, recently elected J. Fieldsteel, apartment house salesman for Allen-Ingraham, Inc., New York City, as rancher, or "headman" of the group. During the past year Clark Harding of the Electric Device Co., Springfield, Mass., has served the Quota Busters' club as rancher.

George Luders, also of Allen-Ingraham, was second high and becomes ranch superintendent of the nationwide organization. Third place, ranch foreman, goes to V. Lebedjeff, also of the same distributorship.

Harry Meyerrose brings the title of "ranch timekeeper" to the Boggs and Buhl Co. of Pittsburgh. George Schultz of St. Louis, who has been dueling with Meyerrose for highest honors among retail men was fifth high, just missing an office in the Quota Busters' club. Less than 1 per cent behind was Ray Kranz of Chicago.

GENERAL ELECTRIC ORDERS TOTAL \$121,725,772

SCHENECTADY, N. Y.—Orders received by the General Electric Co. during 1932 amounted to \$121,725,772, compared with \$252,021,496 for 1931, a decrease of 52 per cent, according to Gerard Swope, president. No separate figures for the refrigeration division were reported.

Orders for the quarter ended Dec. 31 amounted to \$27,351,658, compared with \$25,665,402 for the third quarter of 1932, and with \$49,321,480 for the last quarter of 1931, a decrease from last year of 45 per cent.

Sales billed and earnings for the year 1932 are not yet available.

SERVEL, INC., REPORTS LOSS OF \$777,443 FOR YEAR

EVANSVILLE, Ind.—The yearly statement of Servel, Inc. (including subsidiaries) for the fiscal year ended Oct. 31, 1932, shows a net loss of \$777,443 after depreciation, interest, and provision for excess factory overhead of ensuing seasonal low production period.

This compares with a net profit for the year ended Oct. 31, 1931, of \$1,067,397 or earnings of 58 cents a share on 1,736,426 shares of common stock, after allowing for dividend requirements on 7 per cent preferred outstanding at the close of that fiscal period.

COOK NAMED RHODE ISLAND DISTRIBUTOR FOR G. E.

PROVIDENCE, R. I.—E. Pulver Cook, Inc., here, has just been appointed distributor in this territory for General Electric refrigerators, ranges, and dishwashers.

\$1,000 to Be Used On Refrigeration By Erie League

ERIE, Pa.—Appropriations for \$1,000 for sales promotion work on electric refrigerators for 1933, as compared with expenditures of \$1,379.25 in 1932, and \$1,000 for electric ranges for the coming year, as against \$275.87 in the past year, have been allowed in the 1933 budget of the Electric League of Erie, according to George B. Noll, secretary manager of the league.

The budget allows a total of \$4,250 to be spent on the all-electric kitchen idea, the range and refrigerator receiving the largest amounts, with the dishwasher, clothes washer, and ironer each allotted \$500, and vacuum cleaners, clocks, and ventilating fans, \$250.

An electric refrigeration bureau and an electric cookery council will be operated under the heading of the electric kitchen. Rather than set up several additional organizations, the bureau and council are included in the name Electric League of Erie.

More than 101 dealers and salesmen were present at the fourth anniversary dinner of the league held here recently, at which the plans and budget for the coming year, and the annual report for 1932 were discussed.

In addition to the all-electric kitchen activity, the major merchandising effort of the league for the coming year will be the Cooperative Sales Supervision Plan.

An appropriation of \$4,000 has been allowed in the budget for carrying out this plan by which member dealers will be provided with sales supervision and promotional service by the league.

Under this plan the dealers fulfill certain requirements such as a store with window display space, financial ability to secure a rating with a reliable finance company, ability to keep in stock items which the sales organization will sell, and a servicing department for these appliances.

In return the league will conduct and furnish dealers with advertising and promotional service of a nature which a dealer could not afford to do individually. The league will also train salesmen for dealers.

Included in the annual report is a survey and analysis of the electrical market in Erie which shows the saturation of electric refrigerators in that area to be 12 per cent. Five-tenths of 1 per cent is the saturation for electric ranges, according to the survey.

Tables showing that Erie ranks high in buying power as evidenced by the number of Federal personal income tax returns; that it ranks second in the number of passenger automobile registrations in comparison with nine other cities of similar size; and other statistics are included in the report to show dealers and salesmen the opportunities for business in the district.

LULL LEADING TOPPER IN REX COLE ORGANIZATION

NEW YORK CITY—Ernest P. Lull of the apartment house division was the highest among the 44 salesmen who won Topper awards in the Rex Cole organization, General Electric distributor here.

Instead of the trip to Lake Placid offered by the General Electric Co. to high salesmen in the Toppers club, Rex Cole will award each of his winners \$120.

The men who were chosen, in order of their standings, are:

Apartment house division: Ernest P. Lull, Bronx; Charles S. Witherpoon, Queens; Henry H. Raphael, Bronx; Vernon E. Daniels, Brooklyn; Arthur Silverman, Bronx; Sig Elmon, Brooklyn; George Stifter, Bronx; Clarence J. Robbins, Manhattan; and H. G. Bancroft, Manhattan.

Commercial department: H. P. Balston, Brooklyn-Queens; William Aronstein, wholesale; A. Benedict Salto, wholesale; and S. Arne Larsson, wholesale.

Retail division: Manuel Reina, Long Island City; F. Siegmund, Long Island City; Andrew W. Zoltac, Flushing; Adolf J. Wild, Queens Village; Albert W. Tucker, Bay Ridge; John J. Delaney, Manhattan.

Walter P. Pentz, Queens Village; Chauncey L. Krug, Flushing; Joseph A. Cormier, Flatbush; William H. Urbach, Flushing; John H. Connelley, Bronx; Samuel W. Gottesman, Flatbush; George S. Hutton, Staten Island.

Thomas F. Stratton, Jamaica; William C. Kendall, Bay Ridge; John G. Cook, Brooklyn; Howard G. Paul, Jamaica; Edward Wiesner, Bronx; Carl A. Carlson, Staten Island; and Charles D'Orazio, Brooklyn.

Wholesale department: Harry Guckert, Rene Brials, and D. A. MacDougald of A. L. Hart; John H. Christiansen, Orange and Rockland counties; Hugh Whitton, Home Equipments; Paul C. Meyer, Edwin B. Wheeler, Lee H. Whitestone, and John K. Kromholz, all of Westchester and Putnam counties; and P. W. Cummings and Albert E. Perrot of Fairfield county.



Commercial CABINETS BY *Seeger* SAINT PAUL

THE Seeger Refrigerator Company announces reductions in prices, effective February 1st, 1933, on its line of Commercial Cabinets.

The new prices apply on the same quality, using the same materials, and made in the usual Seeger painstaking manner.

Copy of the New Price Lists will be sent on application.

SEEGER REFRIGERATOR COMPANY SAINT PAUL, MINNESOTA

232 Fourth Avenue
Fourth Ave. at 19th St.
NEW YORK, N.Y.

655-57 So. LaBrea Ave.
LOS ANGELES, CAL.

666 North Wabash
CHICAGO, ILL.

644 Beacon Street
Kenmore Square
BOSTON, MASS.

Resume of Title Retaining and Personal Property Lien Instru

This resume intended as aid for Industrial Financing. There are special statutes covering railroad equipment, rolling stock, live stock, motor vehicles, airplanes, and boats n
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States	Instrument recommended for use	File or record copy or original	Time limit within which to file or record	Necessary signatures	Acknowledgment or affidavit of whom required	*Fixtures Common Law (C. L.) or Statute	With whom is contract filed or recorded?	Place where contract is filed or recorded?	Is it a lien?
Alabama	Cond. Sales Contract	Record Original	Immediately	Buyer	None	C. L.	Probate Judge	County where the buyer resides and where the goods are delivered and remain	Yes; if m
Arizona	Cond. Sales Contract	File Copy	Within 10 days from making of contract	Buyer	None (except Fixtures)	Statute	County Recorder	County where goods are first kept for use by buyer	Yes; withi
Arkansas	Cond. Sales Contract	None Required	Unnecessary	Buyer	None	C. L.	None Required	None Required	Yes; if m
California	Cond. Sales Contract	None Required (except for live stock)	Unnecessary	Buyer	None	Statute	None Required	None Required	Yes; if m
Colorado	Chattel Mortgage	File Original	Immediately	Buyer (mortgagor)	Acknowledgment by Buyer	C. L.	Office of the County Clerk and Recorder	In the county where the goods are situated	Yes; if m
Connecticut	Cond. Sales Contract	File Original—certain property excepted	Immediately	Buyer	*Acknowledgment by Buyer	Statute	Town Clerk	Town where the buyer resides	Yes; withi
Delaware	Cond. Sales Contract	File Copy	10 days from execution	Buyer	None (except Fixtures)	Statute	Recorder of Deeds	County where the goods are first kept for use by buyer; fixtures where realty is situated	Yes; withi
D. of C.	Cond. Sales Contract	File Original	Immediately	Buyer and Seller	Acknowledgment by Buyer	C. L.	Recorder of Deeds	District of Columbia	Yes; withi
Florida	Cond. Sales Contract	Record Original (after buyer is in possession for two years)	2 yrs. after buyer is in possession	Seller in presence of 2 witnesses and buyer	Seller (may be proved by acknowledgment of one witness in lieu)	C. L.	Clerk of Circuit Court	County where buyer resides and where goods are located	Yes; withi
Georgia	Cond. Sales Contract	Record Original	Within 30 days from making of contract	Buyer in presence of one witness	Acknowledgment of Buyer	Statute	Clerk of Superior Court	County where buyer resides; if non-resident county or state then also where goods are located	Yes; withi
Idaho	Cond. Sales Contract	File Original	Immediately	Buyer	Acknowledgment of Buyer	C. L.	County Recorder	County where goods are located	Yes; withi
Illinois	Cond. Sales Contract	None Required	Unnecessary	Buyer	None	C. L.	None Required	None Required	Yes; withi
Indiana	Cond. Sales Contract—must not contain Confession of Judgment	None Required	Unnecessary	Buyer	None	C. L.	None Required	None Required	Yes; withi
Iowa	Cond. Sales Contract	File Copy	Immediately	Buyer and Seller	Acknowledgment by Seller or Buyer	C. L.	County Recorder	Where buyer resides; non-resident of state then where property located	Yes; withi
Kansas	Cond. Sales Contract	File Copy	Immediately	Buyer	None	C. L.	Register of Deeds	County where goods are to be kept	Yes; withi
Kentucky	Chattel Mortgage	File Original	Immediately	Buyer (mortgagor) and 2 witnesses if buyer does not acknowledge	Acknowledgment by Buyer (before a Notary Public and 2 witnesses)	C. L.	County Clerk	County where property is located	Yes; withi
Louisiana	Chattel Mortgage (Special La. Form)	File Original or Certified Copy	Immediately	Buyer (mortgagor) before Notary and 2 witnesses	Acknowledgment by Buyer (before a Notary Public and 2 witnesses)	Peculiar rule "immovable by destination"	Recorder of mortgages	Parish where mortgagor resides and also where goods are located	Yes; withi
Maine	Cond. Sales Contract	Record Original	Immediately	Buyer	None (except in unorganized place)	C. L.	City, Town or Plantation Clerk	In City, Town or plantation where buyer resides; if buyer is a non-resident where seller resides	Yes; withi
Maryland	Cond. Sales Contract—must use eight-point type	Record Original	Immediately	Buyer	None	C. L.	County Clerk except Baltimore with Clerk of Superior Court	Where Buyer Resides	Yes; withi
Mass.	Cond. Sales Contract	None Required (except for fixtures)	Unnecessary (unless attached to realty statement to be filed within 10 days from delivery of equipment)	Buyer	None (see Fixtures)	Statute	None required; fixture contracts to be filed with County Clerk	None required except fixtures to be recorded in County where realty is located	Yes; withi
Michigan	Chattel Mortgage	File Copy	Immediately	Buyer (mortgagor)	Affidavit by Buyer	C. L.	Town, City Clerk or Recorder	County where buyer resides and also where property is located	Yes; withi
Minnesota	Cond. Sales Contract	File Copy (where city has population of over 50,000; otherwise file original)	Immediately	Buyer	None	C. L.	Register of Deeds or Town or City Clerk	County where property is located and buyer resides	Yes; withi
Mississippi	Cond. Sales Contract	Record Original (after buyer is in possession for 3 years)	Within 3 yrs. after buyer has had possession	Buyer	Acknowledgment by Buyer (or proved by acknowledgment of 1 witness taken before Notary Public)	C. L.	Clerk of Chancery Court	County where property remains	Yes; withi
Missouri	Chattel Mortgage	File Original or true copy	Immediately	Buyer (mortgagor)	None	C. L.	County Recorder, except St. Louis City Recorder	County where buyer resides. If non-resident of State then county where property is located	Yes; withi
Montana	Cond. Sales Contract	File Original	Immediately	Buyer	None	C. L.	County Clerk and Recorder	County where buyer resides and property is located	Yes; withi
Nebraska	Cond. Sales Contract	File Copy	Immediately	Buyer	Affidavit by Seller	C. L.	County Clerk	County where buyer resides	Yes; withi
Nevada	Cond. Sales Contract	None Required	Unnecessary	Buyer	None	C. L.	None Required	None Required	Yes; withi
New Hamp.	Cond. Sales Contract	Record Original	Within 20 days after delivery of property	Buyer	Affidavit by both Seller and Buyer	C. L.	Town Clerk	Town where buyer resides. If buyer is not within State, where seller resides. If neither buyer nor seller reside within State where goods are located	Yes; withi
New Jersey	Cond. Sales Contract	File Copy	Within 10 days from making of contract	Buyer	None (see Fixtures)	Statute	County Clerk or Register of Deeds	County where property is first kept for use	Yes; withi
New Mex.	Cond. Sales Contract	File Copy	Immediately	Buyer and Seller	Acknowledgments by Buyer and Seller	C. L.	County Clerk	County where property is located	Yes; withi
New York	Cond. Sales Contract	File Copy	Immediately	Buyer	None (see Fixtures)	Statute	Town or city clerk except county seats with register, if no register then county clerk. New York City—4 counties with register, Richmond County with county clerk.	Where buyer resides; if buyer non-resident, then where property located. Fixtures where realty situated	Yes; withi
N. Carolina	Cond. Sales Contract	Register Original or duplicate in Meckleburg Co.	Immediately	Buyer and 1 witness unless acknowledged	Acknowledgment by Buyer (or signature may be proved by acknowledgments of 1 or more witnesses)	C. L.	Clerk of Superior Court	County where buyer resides; if non-resident of state then county where property is located	Yes; withi
N. Dakota	Cond. Sales Contract	File Original (with receipt attached showing buyer has received true copy from seller)	Immediately	Buyer and 2 subscribing witnesses unless acknowledged	Acknowledgment by Buyer or may be signed before 2 witnesses in lieu	C. L.	Register of Deeds	County where goods are located	Yes; withi
Ohio	Chattel Mortgage	File Original or True Copy with affidavit	Immediately	Buyer	Affidavit by Seller	C. L.	County Recorder	County where buyer resides; county where goods are located, if buyer non-resident of county or state	Yes; withi
Oklahoma	Cond. Sales Contract	File Original	Immediately	Buyer	None	C. L.	County Clerk	County where goods are located	Yes; withi
Oregon	Cond. Sales Contract	None Required (except for fixtures)	Unnecessary	Buyer	None	Statute	None required except fixtures in county where realty is situated	None Required	Yes; withi
Penn.	Cond. Sales Contract	File Copy	Within 10 days from making of contract	Buyer	None (see Fixtures)	Statute	Prothonotary	County where goods are kept	Yes; withi
Rhode Is.	Cond. Sales Contract	None Required	Unnecessary	Buyer	None	Statute	None Required	None Required	Yes; withi
S. Carolina	Cond. Sales Contract	Record Original	Immediately	Buyer and 1 witness	Affidavit by witness	C. L.	Clerk of Court except Charleston, Greenville, Spartansburg, with Register.	County where buyer resides; if non-resident of state where property is located	Yes; withi
S. Dakota	Cond. Sales Contract	File Copy	Within 10 days from making of contract	Buyer	None (see Fixtures)	Statute	Register of Deeds	County where property is located	Yes; withi
Tennessee	Cond. Sales Contract	None Required	Unnecessary	Buyer	None	C. L.	None Required	None Required	Yes; withi
Texas	Chattel Mortgage	File Original	Immediately	Buyer (mortgagor)	None (if original filed)	Statute	County Clerk	County where property is situated or where buyer resides	Yes; withi
Utah	Cond. Sales Contract	None Required (except for live stock)	Unnecessary	Buyer	None	C. L.	None Required	None Required	Yes; withi
Vermont	Cond. Sales Contract	Record Original	Within 30 days after property is delivered	Buyer	None	C. L.	Town or city clerk; if buyer resides in unorganized place, with county clerk	County or town where buyer resides; if buyer non-resident of state, then county or town where seller resides	Yes; withi
Virginia	Cond. Sales Contract—must use ten-point type on contract and pica type clause forbidding oral waivers or modifications	File Original	Within 5 days after property is delivered	Buyer and Seller	Acknowledgment by Seller and Buyer	C. L.	In Richmond—Clerk of Chancery Court; elsewhere either with Clerk of Circuit Court, Hustings Court or Clerk of Corp'n Court	County where property is situated	Yes; withi
Washington	Cond. Sales Contract	File Original	Within 10 days after buyer takes possession	Buyer and Seller	None	C. L.	County Auditor	County where buyer resides	Yes; withi
West Va.	Chattel Mortgage to secure deficiency	File Original	Within 10 days from execution	Buyer (Mortgagor)	Acknowledgment and Affidavit by Buyer (Mortgagor)	C. L.	County Auditor	County where property is situated	Yes; withi
Wisconsin	Cond. Sales Contract	File Copy	Within 10 days from making of contract	Buyer	None (see Fixtures)	Statute	Clerk of County Court	County where goods are kept	Yes; withi
Wyoming	Cond. Sales Contract	File Copy	Immediately	Buyer	Affidavit by Seller	C. L.	County Clerk	County where goods are kept	Yes; withi

Notice—The information contained herein has been compiled for the Commercial Credit Co. by Dills, Muecke & Schelkner, attorneys, and was obtained from sources and authorities which they believe are reliable but is not guaranteed. It is suggested that users examine the statutes and decisions as to the legal status of contracts and instruments used in any instance where there is a doubt as to sufficient and adequate protection. The requirements set forth herein are subject to legislative change from time to time.

*The decisions on fixtures are conflicting even in the same state, because they involve a mixed question of law and fact. No definite rule can be laid down. Decisions and statutes should be studied with respect to the specific kind of fixtures. It is recommended that waivers be obtained from mortgagors and other lien holders of realty. It should be particularly noted that in instances where the property described in the conditional

chattels are attached or to be attached is required to be the types of description necessary to make the different filing and recording offices. An illustration: In Queens County requires that a plot diagram be endorsed on instrument together with block, ward, lot, section number

Instruments Used in the United States for Retail Installment Sales

and boats not mentioned in this resume. Prepared for COMMERCIAL CREDIT CO., Baltimore, Md., by Dills, Muecke & Schelkner, attorneys, 100 East 42nd St., New York City. It is understood that the continual stream of legal decisions affecting the resume make it next to impossible ever to have the resume entirely up-to-date for all states.

	Is it necessary to refile? If so, when?	Has landlord a lien when contract has been filed or recorded?	What are the filing or recording fees?	Legal rate of interest	**Limit allowed by contract	Are attorney's fees stipulated for, on the face of the note, collectible; if so, how much?	Must seller elect between his remedies?	If so, will the election of one remedy bar the election of any other remedy available to the seller?	Are the contracts of a married woman a business as a trader enforceable at law as if unmarried?
goods	No	No	15c per 100 words; 15c tax on each \$100 and a license tax of 50c on each \$500. Release 25c	8%	8%	Yes—reasonable	Yes	Action for purchase price acts as a bar to retaking of equipment and vice versa. However, parties may stipulate for recovery of price upon retaking, sale, and crediting proceeds on note, if not inconsistent	Yes—if over 18 years. May not become surety for husband. Husband must join in real estate conveyances
buyer	Yes; within 60 days preceding expiration of 3 yrs. from filing and yearly thereafter	No	75c; refiling 75c; release 20c	6%	10%	Yes—reasonable	No	Seller may sue for purchase price or retake goods, or retake and sell goods and sue for deficiency	Yes—if over 21 years
	No	No	None Required	6%	10%	No	Yes	Action for purchase price acts as a bar to retaking of equipment and vice versa	Yes—if over 18 years
	No	No	None Required	7%	12%	Yes—reasonable	Yes	Action for purchase price acts as a bar to retaking of equipment and vice versa. However, suing for installments which are due, where the whole price is not yet due, is not an election. Foreclosure and suit for deficiency allowed.	Yes—if over 18 years
	Yes; if mtge. does not exceed \$2,500—2 yrs.; over \$2,500—5 yrs.; over \$20,000—10 yrs.	No	50c; refiling 50c; release 50c	8%	No Limit	Yes—reasonable	No	Foreclosure proceedings is proper remedy	Yes—if over 21 years
	No	No	\$1.00; release 40c	6%	12%	Yes—reasonable	No	Action for purchase price with action for Trover may be joined in one action; does not apply if seller brings one action; a retaking by seller is bar to suit for purchase price and vice versa	Yes—if over 21 years
by	Yes; within 30 days preceding expiration of 3 yrs.; yearly thereafter	No	\$1.00; refiling \$1.00; release 25c	6%	6%	Yes—not exceeding 5%	No	Seller may sue for purchase price or retake the goods, or retake and sell goods and sue for deficiency	Yes—if over 21 years
	No	No	\$1.00; release 50c	6%	8%	Yes—reasonable	Yes	Action for purchase price acts as a bar to retaking of equipment and vice versa. Seller may maintain bill in equity to subject goods to satisfaction for the price and for deficiency after sales	Yes—if over 21 years
are	No	No	Filing 10c; recording 25c for 1st 100 words and 12½c for each succeeding 100 words; release same fees	8%	10%	Yes—reasonable	Yes	Action for purchase price is bar to retaking of equipment. However, seller may sue in equity for foreclosure and sue for deficiency	Yes—if over 21 years and authorized to control her own estate as a free dealer in order of the judge of the circuit court jurisdiction of which she resides after published notice
county	No	No	20c per 100 words plus 10c for indexing; counties of population over 50,000—15c per 100 words	7%	8%	Yes—if defendant is notified in writing 10 days before suit is brought	Yes	Action to retake equipment is a bar to suit for purchase price; however, a purchase money attachment on the goods does not bar a subsequent action for Trover. Foreclosure allowed	Yes—if over 21 years. May not become surety or pledge or transfer her own property as security for husband's debt
	No; unless goods removed to another county, to be refiled in other county	No	50c; release 25c	7%	10%	Yes—reasonable	Yes	Action for purchase price is bar to retaking of equipment and vice versa. However, if contract so provides, seller allowed to retake, sell the goods, and sue for deficiency	Yes—if over 18 years. May not become surety for another
	No	No	None Required	5%	7%	Yes—reasonable	No	Seller may retake the goods, sue for conversion or sue for purchase price	Yes—if over 18 years
	No	No	None Required	6%	8%	Yes—reasonable	Yes	Seller may sue for purchase price or retake the goods or sue for conversion; action for purchase price is bar to retaking of equipment and vice versa.	Yes—if over 21 years. Husband must join in real estate conveyance
where	Yes; 5 yrs. after maturity of debt	No	25c; refiling 25c; release 25c	6%	8%	Yes—reasonable	Yes	Seller may retake goods or sue for purchase price. An action for purchase price is bar to retaking and vice versa	Yes—marriage emancipates infants
	No	No	25c; refiling 25c; release 25c	6%	10%	No	No	Seller may retake the goods and sue for purchase price or retake the goods and in action of replevin recover usable value of the goods from commencement of action until time of trial	Yes—if over 18 years
	No; good for 15 yrs. after maturity of debt	No; not if mtge. is filed before equipment is placed on premises; otherwise landlord has lien for 1 year's rent	\$1.00; marginal release 25c; satisfaction 50c	6%	6%	No	No	Foreclosure proper remedy	Yes—if over 21 years
goods	Yes; every 5 years	Yes	50c; refiling 50c; release 25c	5%	8%	Yes—reasonable	Yes	Seller may sue for dissolution of sale or retake and sue for deficiency	Yes—if over 21 years
	No	No	250 words or less, 50c to 75c—Clerks of cities and towns and registers of deeds \$1.00 for 1st 500 words; 25c for each add'l 100 words; release 25c	6%	No Limit	No—fixed by statute	No	Seller may sue for purchase price and retake equipment or foreclose	Yes—if over 21 years
	No	Yes; landlord's waiver necessary. In Baltimore City landlord's waiver unnecessary except for equipment located in office bldgs.	In Baltimore \$1.00; recording memorandum at length \$2.75 per 1,000 words, minimum fee of \$1.50; elsewhere 1½c for each 10 words	6%	6%	Yes—reasonable	Yes	Action for purchase price is bar to retaking of equipment and vice versa	Yes—if over 21 years
county	No	No	None required; fixture statements \$1.00 plus 45c for each additional page plus 10c for indexing each additional name over 2	6%	Under \$1,000 18%	Yes—reasonable	Yes	Action for purchase price is bar to retaking of equipment and vice versa	Yes—if over 21 years and if certificate setting forth her name, husband's name, nature of business and place of business is filed in clerk's office of city or town where business is located
property	Yes; every year within 30 days from expiration date	No	6c filing plus 6c entering each name; release 25c	5%	7%	No	Yes	Foreclosure is proper remedy	Yes—if over 21 years. Cannot become partner of husband or surety except for his sole benefit
des	Yes; 6 yrs. after maturity of debt	No	25c Registers of Deeds; 10c City Clerks; release 25c	6%	8%	Yes—reasonable	Yes	Action for purchase price is bar to retaking of equipment and vice versa. However, foreclosure is allowed in alternative	Yes—if over 18 years
	Yes; within 6 mos. after 6 years	No	5c each paper—recording 25c; recording and indexing per 100 words, 15c	6%	5%	Yes—10% allowed	No	Seller may retake the goods and also sue for unpaid purchase price	Yes—if over 21 years
State	No provision—advisable to renew every 5 years	No	10c; recording 10c per 100 words; release 10c	6%	8%	Yes—10% allowed	Yes	Foreclosure proper remedy	Yes—if over 21 years
ated	No	No	50c; release 25c	8%	10%	Yes—reasonable	Yes	Seller may retake the property or sue for purchase price. One is a bar to the other. However, if so stipulated in the contract the seller may retake the goods, resell and sue for deficiency	Yes—if over 18 years and by application to the court and publication of notice of intention, may become sole trader
	Yes; 5 yrs.—30 days before expiration date and yearly thereafter	No	25c	7%	10%	No	Yes	An action for the purchase price bars a subsequent retaking of the equipment	Yes—marriage emancipates infants
	No	No	None Required	7%	12%	Yes—but not in replevin	Not decided	Seller's remedies are governed by terms of contract	Yes—if over 18 years. Must sue and sue with husband unless separated authorized by district court to transact business in own name
	No	No	30c each page of 224 words; release 50c	6%	No Limit	No decisions	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years. Cannot become partner or surety for husband
within 30 days preceding expiration of 3 yrs., and yearly thereafter	No	No	\$1.00; release 20c	6%	6%	No decisions	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years
No; original filing good for 6 yrs. after date of maturity of debt	No	No	25c; release—no fee	6%	10%	Yes—reasonable	Yes	Seller may retake the goods or sue on the contract for the purchase price. Not clear whether an election constitutes a bar	Yes—if over 21 years
Yes; within 30 days preceding expiration of 3 yrs., and yearly thereafter	No	No	New York City, \$1.00—50c additional against realty; 25c for receipt; elsewhere varies from 25c to 75c; release 50c plus 25c for each additional name indexed	6%	6%	Yes—15% allowed	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years
No; good for 15 yrs. after maturity of debt	No	No	Fees vary locally	6%	6%	No	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years
Yes; every 3 yrs. within 90 days preceding expiration date	No	No	25c; refiling 25c; release—no fee	6%	9%	No	Yes	Seller may retake the goods or sue for purchase price. An election of one remedy bars the other	Yes—if over 18 years
Yes; within 30 days after 3 years	No	No	6c for filing; recording 10c per 100 words	6%	8%	No	No	Foreclosure is proper remedy. Do not retake without legal process	Yes—if over 21 years
Yes; every 3 yrs. within 30 days preceding expiration date	No	No	25c; release—no fee	6%	10%	Yes—10% allowed	Yes	Seller may retake the goods, resell and sue for difference between the aggregate amount received and the agreed price or may sue for damages and retain a lien for the amount of judgment	Yes—if over 18 years
No	No	No	None Required	6%	10%	Yes—must read reasonable and not based on percentage	Yes	An election to retake the goods acts as a bar to the recovery of purchase price and vice versa. Deficiency may not be recovered unless contract expressly provides for it	Yes—marriage emancipates infants
Yes; within 30 days preceding expiration of 3 yrs., and yearly thereafter	Yes	Yes	50c; release 30c	6%	6%	Yes—reasonable	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years
No	No	No	None Required	6%	30%	No decisions	Not decided	Seller may retake the property; sue for purchase price	Yes—if over 21 years
Yes; 6 yrs. from maturity and every 3 yrs. thereafter	No	No	Fees vary locally	7%	8%	Yes—reasonable—10% allowed	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years
Yes; within 30 days preceding expiration of 3 yrs., and yearly thereafter	No	No	15c; release 25c	7%	10%	No	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 18 years
No	No	No	None Required	6%	6%	Yes—10% allowed	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years
Yes; within 3 mos. preceding 6 yrs. before maturity of debt	Yes; unless mtge. filed before equipment placed on premises	Yes; unless mtge. filed before equipment placed on premises	25c; release 25c	6%	10%	Yes—reasonable	Yes	Seller must foreclose and may retake only if provided in contract	Yes—if declared feme sole by district court in application joined in by husband over 21 years
No	No	No	None Required	8%	12%	Yes—reasonable	Yes	A retaking of the goods is an absolute election and he may not thereafter sue for the balance of the price due	Yes—marriage emancipates infants
No	No	No	50c for 250 words; over 250 words, 20c per folio; release 20c per folio; minimum charge 50c	6%	6%	Yes—if more than bare agreement shown	No	Seller may foreclose or make attachment in suit for purchase price	Yes—if over 21 years
No	No	No	25c; release 25c	6%	6%	Yes—reasonable	No	Rights are determined by the court	Yes—if over 21 years
No	No	No	50c; release 25c	6%	12%	Yes—reasonable	Yes	Seller may retake the goods or sue for purchase price. One is bar to the other	Yes—marriage emancipates infants
Yes; 2 years after maturity	No; if filed before equipment is placed on premises or if landlord has actual notice of seller's rights	No; if filed before equipment is placed on premises or if landlord has actual notice of seller's rights	50c; release—no fee	6%	6%	No	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years
Yes; within 30 days preceding 3 yrs. and yearly thereafter	No	No	50c; release 20c; in Milwaukee 35c; release 35c	6%	10%	Yes—reasonable	No	Seller may retake the goods, resell and sue for deficiency	Yes—if over 21 years
Yes; within 30 days preceding 3 yrs. and yearly thereafter	No	No	25c	7%	10%	Yes—reasonable	No decisions	Seller may retake the goods or sue for purchase price	Yes—common law governs age of major

is required to be endorsed on contract or renewal statement. make the filing of the instrument acceptable, generally vary in an illustration: In the City of New York, the Register's Office of diagram be endorsed on or attached to the outer side of the not, section number, and street data. In New York and Kings

street, block and lot. In the case of ordinary conditional sales contracts unrelated to real estate, it is generally required that the premises where the chattels are located be designated on the outer part of the instrument by number, street and city. Where both buyer and seller sign—both acknowledgements are required. There are stamp taxes on promissory notes and other obligations in these states.

Wis., and Fla., on corporations organized under 1925 act. Usury statutes and penalties vary in different states. Since Adoption of Uniform Sales Act, some Kentucky attorneys believe Conditional Sale Contracts preferable to Chattel Mortgages. A conditional sales contract containing a clause permitting a retaking and deficiency and placing the risk of loss of property upon the purchaser was held to be a chattel mortgage.

AIR CONDITIONING

DETROIT EDISON CO. PLANS PROMOTION OF CONDITIONER SALES

By John T. Schaefer

DETROIT—Several types of comfort-cooling equipment were described by Detroit Edison engineers, and plans were outlined for a direct mailing advertising program on comfort cooling, in a meeting on Tuesday night of last week staged by Detroit Edison Co. to stimulate local interest in comfort cooling and air conditioning.

More than 400 engineers and contractors in the refrigeration, heating, ventilating, and metal-working trades congregated to hear the several Detroit Edison men speak. A similar meeting was held about a year ago.

Almost every speaker at the "second annual Detroit conference on air conditioning" as A. D. McLay, power sales engineer, called it, emphasized the fact that the utility's interest in air conditioning is solely because the power for operating such equipment will be purchased from the utility.

"The Detroit Edison Co. will not rent, sell, or install comfort cooling. We have no intention of competing with your business. Our efforts will be promotional only, to help you sell comfort cooling. Our own interest in comfort cooling is the sale of electricity or steam," Mr. McLay declared.

Last year 42 systems of various types were installed in Detroit for comfort cooling purposes, Mr. McLay re-

ported, and this year many more will go in if proper educational and selling efforts are made, he believes.

T. F. Gessler, advertising manager of the company, next explained a direct mail campaign which will be conducted this spring and summer, and urged cooperation of the equipment-selling men.

The plan is for equipment contractors to submit lists of their comfort-cooling prospects together with their own letterheads; Detroit Edison will prepare the mailing pieces and send them out.

Contractor Follows Up

The contractor is then supposed to follow up the prospect, telling him what equipment is available, how much the various types cost, adopting his suggestion of equipment to the financial means of the prospect.

Mr. Gessler showed by lantern slides the three mailing pieces that were sent out last year to stimulate interest in comfort cooling. These, together with three or four newspaper advertisements which reached 1,000,000 readers last summer, invoked so many inquiries that facilities of the office were overtaxed in handling them, he said.

To dramatize the importance of comfort cooling to the commercial prospect, he showed a sales curve of Snyder's Coffee Shop which last summer installed a steam-ejector system. The curve showed a steady decline through June, and began to rise immediately after the system was placed in service on June 30, rising steadily throughout the summer when business ordinarily declines due to hot weather.

S. S. Sanford, power sales department, followed with a number of sug-

gestions for selling equipment. First tell your prospect that a 15,000-cu. ft. house can be equipped with an ice-tank system for around \$450, and that a mechanically refrigerated system will cost about \$650.

(Editor's note—Detroit Edison men recommend a moderate degree of cooling only, because of the rapidly rising cost of equipment for greater cooling.)

Overall Costs Same

"Then explain that the cost of operating an ice system is enough higher than operating costs of an electric system to make over-all costs (operating plus interest and depreciation on investment) about the same," Mr. Sanford said.

"By this time you should have a pretty good indication of the prospect's ability to buy. If it looks as though he won't invest in a real cooling system, he may be interested in a simple fan system which can be installed for approximately \$135 to exhaust hot air out of the house at night," he suggested.

If you are an electrical contractor, and your prospect shows interest in a simple fan job, get in touch with a sheet-metal contractor for an estimation of material to complete the job, and vice versa, he continued.

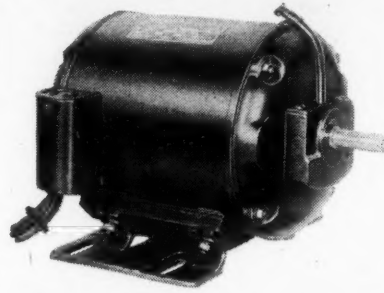
Describes Installations

If the prospect appears to prefer an ice-cooling system, communicate with the Detroit Ice Publicity Association for further information, and if he is willing to install an electric cooling system, go to one of the manufacturers of mechanically refrigerated comfort cooling cabinets, he said.

J. H. Walker, superintendent of central heating, next described the several types of installations with which the company has experimented during the past year, and urged attention to the "Comfort-Cooling Data Book" which was given to everyone at the start of the meeting.

First class of systems mentioned was that in houses or stores which have

Air-Cooler Motor



Wagner Electric Corp. has just announced this motor for air conditioners (see report on page 1).

warm air heating systems with air ducts which can be utilized for distribution of the cooled air.

Second was the installation in a steam or hot-water heated establishment, where new ducts must be installed to distribute cooled air through the building. The additional cost of the new ducts should be figured by a competent estimator, Mr. Walker pointed out.

Both types of installations may use either ice or electric cooling systems, he showed.

Electric Fan System

Last-described system was installation of an electric fan, with no refrigeration whatsoever, to be used in the evening of a hot day to drive out the hot air of a house and draw in the cooler night air.

This may be done, he pointed out, by a fan applied to a warm-air furnace, by a centrifugal blower in the attic exhausting through louvers near the roof, or by a propeller type fan installed at the head of the attic stairs and blowing air out through louvers.

Helmrich Gives Specifications

G. B. Helmrich of Detroit Edison's engineering department was last on the program, giving general specifications of equipment for comfort-cooling purposes.

He first stressed the importance of installing a fresh air duct with central cooling systems, and pointed out the advantages of using an air filter.

The fan should be large enough to produce from six to eight air changes per hour, and should circulate enough air so that no cooled air need be introduced to a room at an entering temperature less than 60° F. Ducts should be large enough to keep the air velocity at the duct at or below 250 ft. per minute, he said.

The cold water circulating pump should be sized to handle 1 gal. of water for each 30 lbs. of ice or ice melting effect consumed per hour, he continued. The ice tank should hold 650 lbs. of ice for a house from 15,000 to 30,000 cu. ft. in size.

Sound Insulation

Fans, motors, pumps, etc. should be placed on rubber, felt, or cork sound-insulating materials in order to keep the system quiet, he said, and ice water lines and tanks should be heat-insulated to reduce refrigeration losses.

Mr. Helmrich concluded by stating that the evening's remarks applied alike to both commercial and residential cooling, except that many commercial jobs have internal loads such as lights, cooking, and people which increase the refrigeration requirements, whereas residential cooling requirements are largely dependent on the factor of external surface area.

The meeting ended with a brief review by Mr. McLay, who urged the delegates to get started right away in their efforts to sell comfort-cooling equipment for the coming summer.

Filter for Warm Air Ducts Announced

MILWAUKEE—A new filter for installation in warm air ducts of domestic heating installations has just been announced by the Filtaire Corp. of this city. The filtering element is built as a square metal screen which can be removed for cleaning, by sliding it out of its receptacle in the air duct.

Chicago Engineers Form Company

CHICAGO—Brunswick Engineering Co. has just been organized with headquarters at 2306 N. Knox Ave. here by a number of men formerly connected with the Brunswick-Kroeschell organization in Chicago. The new firm will build and install air-conditioning equipment.

Myers to Sell Buckeye Blowers in St. Louis

COLUMBUS, Ohio—Buckeye Blower Co. of this city, manufacturer of fans, has appointed George Myers representative of Buckeye products in the St. Louis district with headquarters in the St. Louis Mart building.

G. E. ENGINEER TALKS ON AIR CONDITIONING

PHILADELPHIA—Air conditioning of the buildings in which we live and work will be the generally accepted standard in the future, according to Elliott Harrington of the General Electric Co., speaking before the Franklin Institute here last Thursday. Apparatus for conditioning air, said Harrington, will be installed even in small homes, with the same nonchalance that electric lighting and modern plumbing are now specified. He said:

Home Air Conditioner

"The air conditioner for the home will be a single unit installed much as a boiler is now placed in the basement. It will be a perfectly standardized article, manufactured in large quantity, relatively light in weight, and purchased at a reasonable price.

"It will not only provide the four essential elements of air conditioning (simultaneous control of temperature, humidity, air movement, and purity), but will take care of additional factors yet to be discovered, to produce in the home a degree of comfort and health as yet unknown."

Comfort is an important factor in air conditioning, said Harrington. He explained that a comfort meter is essential to the accurate handling of air-conditioning problems, and added that perhaps a very exact measure of skin surface temperature will lead to the development of such a meter.

\$5,000,000,000 Market

Speaking of the future market for air-conditioning apparatus, he mentioned an estimate of at least five billion dollars. "This does not seem excessive," he continued, "when one thinks of the thirty million homes in this country, over twenty million of which are electrically wired.

"Added to this there are 2,500 large theaters, 1,000 large department stores, 1,500 banks, not to mention the office buildings, chain stores, restaurants, hotels, specialty shops, railway trains, and motor buses," he pointed out.

An Investor

101 Halsted St., East Orange, N. J.
Jan. 24, 1933.

Editor:

I have \$2,000 cash that I would like to invest in the common stock of about five companies that are in, or are going in to the air-conditioning field.

Which five or six companies would you hazard a guess as to being the best ones in which to invest this money for a long pull?

I will have to except G. E. and G. M. from this list as air conditioning will never be a major item with them due to the size of the corporations.

I prefer sound companies like Carrier, etc. who will derive greatest benefits from the air-conditioning field.

CAROL MASON.

Answer:

To paraphrase Will Rogers, everything we know is put in our papers.

Since Jan. 1 of this year we have been running a special air-conditioning department in ELECTRIC REFRIGERATION NEWS, into which has gone all available information we have about present activities of the various manufacturers of air-conditioning equipment. This department will undoubtedly be continued for a considerable length of time, and I think you might find it to be of help to you in making the investments you contemplate.

A handy subscription blank is enclosed.

EDITOR.

AIR-CONDITIONING SCHOOL CONDUCTED BY FRIGIDAIRE

(Concluded from Page 1, Column 2)

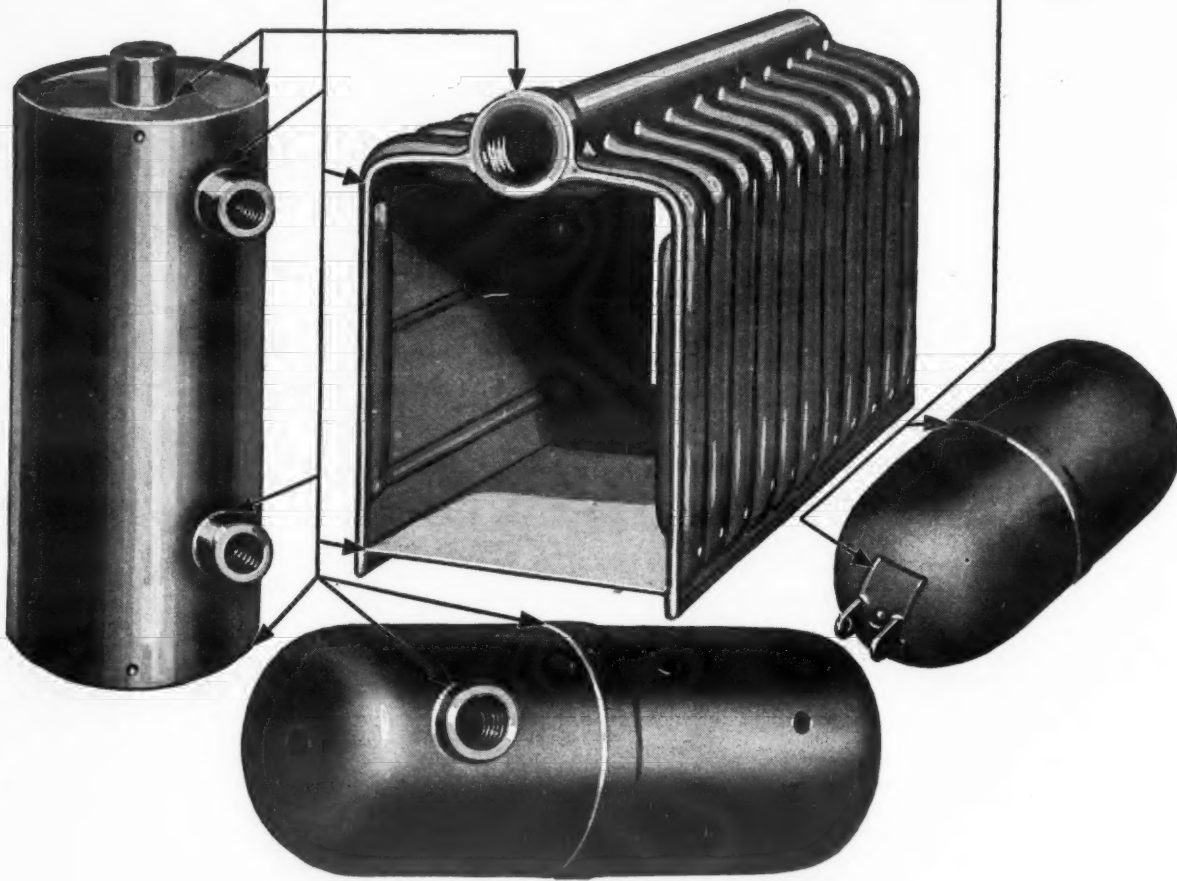
aire's air-conditioning division and director of the school, asserted the purpose of the classes is to give men who are to be active in the selling and installation of air-conditioning equipment a basic knowledge of the development of means for human comfort and efficiency as well as the many applications which may be made with equipment available today.

"In 1932," Mr. Chambers said, "Frigidaire air-conditioning equipment was used in 63 distinctly different types of applications ranging from scientific laboratories where temperature differential within one degree was maintained, to commercial establishments, homes, offices, and hospitals."

The school faculty is made up of Mr. Chambers' staff, L. E. Smith, manager of the sales engineering division; George S. Jones, Jr., manager of the public utilities division, and engineering and research division members.

Dramatized highlights in the development of air conditioning interspersed the five-day program to bring out sensational points in the evolution of heating, cooling, dehumidifying, humidifying, air circulation, and cleansing.

COPPER HYDROGEN WELDED



**Permanent strength
at all joints—
all at one operation**

That's exactly what Copper Hydrogen Electric Welding accomplishes. For example, the steel parts illustrated above (evaporators, condensers, floats and tanks) were all welded at one operation by Copper Hydrogen Electric Welding.

This assures longer life, permanent strength at the joints, gas tightness and a clean scale free surface.

You'll be surprised at the really marvelous welding results obtained by this advanced process.

If you have a unit composed of a number of steel parts that require welding, it will pay you to investigate Copper Hydrogen Electric Welding. Write for complete information today.

BUNDY TUBING CO.

Detroit, Mich., U. S. A.

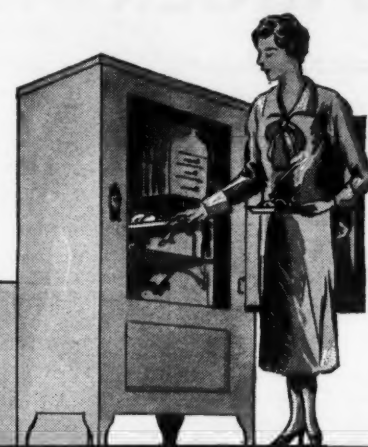
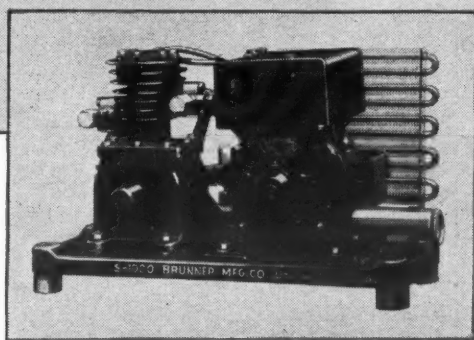
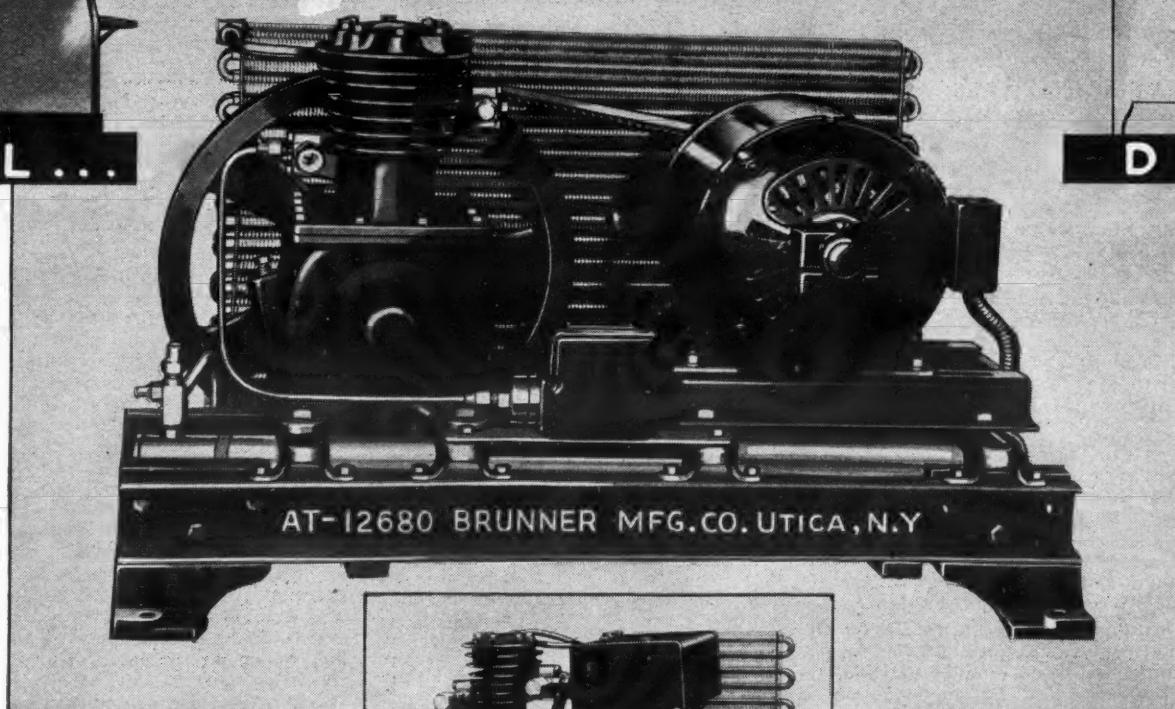
ALSO MANUFACTURERS OF BUNDYWELD STEEL TUBE

A COMPLETE LINE OF **BRUNNER** HIGH SIDES AND COMPRESSORS



COMMERCIAL...

Number AT-12680
1½ H. P. Air Cooled
Commercial High Side



DOMESTIC..

Number S-1020
⅓ H. P.
Domestic High Side

BRUNNER *introduces its* 1933 models at **1933 PRICES** plus... a sales policy that answers present problems in the refrigeration industry

The BRUNNER line for 1933 includes models for Commercial and Domestic applications. A line painstakingly designed to meet modern refrigeration needs by engineers thoroughly conversant with present day refrigeration problems and priced to find favor with 1933 buyers.

In like manner the BRUNNER Sales Policy meets today's conditions, assuring profitable operation in 1933 for merchandisers of BRUNNER Equipment. BRUNNER recognizes that one of the first principles of successful distribution is a good product, second that the Distributor and Dealer must have

a satisfactory margin on which to operate and third that the price to the ultimate user must represent true value. All of these basic principles have been effectively woven into the BRUNNER Sales Policy for 1933.

The 1933 line includes four dependable Compressors, fifteen efficient High Sides—air and water cooled units—gas engine and electric—in a range of ⅓-HP to 1½-HP. We also offer a complete line of Commercial and Domestic low sides. Get the complete BRUNNER story right now. It is possible that your territory is still open.

BRUNNER MANUFACTURING CO.
REFRIGERATION DIVISION
UTICA, N. Y.

BRUNNER
A name built by 27 years of service

Brunner Mfg. Co., Utica, N. Y.

Gentlemen:

Please send me full particulars of your 1933 line of Refrigerating Equipment. We attach our letterhead.

Firm Name _____

Individual _____

Title _____

Street _____

City _____

COMMERCIAL REFRIGERATION

SOLID CO-2 SYSTEM DEVELOPED BY MACK

NEW YORK CITY—A new method of refrigeration control for motor truck bodies, known as the "Statotherm" system, has been developed by the refrigeration division of Mack Trucks, Inc. Solid CO₂ is used for cooling effect, control being accomplished by a specially designed thermostat which regulates the starting and stopping of a fan blowing across the cooling unit.

It is claimed that perishable products can be carried over long distances at any desired temperature, with as little as one degree variance from the selected temperature. This control is done with a new form of hyper-sensitive thermostat with electrical relay control.

Rests on Aluminum Plate

The refrigerant, usually solid CO₂, is placed in an insulated compartment located at the bottom of the truck body where it does not interfere with loading space. The refrigerant rests on a ribbed aluminum plate, chilling it.

An adjacent compartment contains the control and electric blower equipment whereby warm air from the food compartment is blown under the chilling plate and from there back into the food compartment intermittently under the control of the thermostat.

Blower in Food Compartment

A separate blower is used to maintain circulation of air within the food compartment, to maintain uniform temperature throughout this compartment.

Air from the bottom of the body is drawn down through a duct and blown along the ribs of the cold plate. Then the chilled air is blown back into the body at the top through another duct, so designed that the cold air is evenly distributed. As this cold air drops to the bottom of the body it absorbs heat from the load and the body walls and is again circulated over the cold plate.

When the temperature of the air in the body reaches the required low

point, the thermostat actuates the intermittent motor, which stops the intermittent blower so that the air is no longer passed through the chilling duct, although the other blower continues to agitate the air within the food compartment.

When the body temperature rises about 2° F., since no cold air is being introduced, the thermostat again actuates the intermittent motor, and the air from the body is again passed through the chilling duct.

Adjustable Thermostat

Although there is a slight variation in the temperature of the air in the body during the warming period, it is a uniform variation of very short duration and causes only a minute change in the load temperature, which can be said to remain practically constant, Mack engineers state.

The thermostat is adjustable for any desired temperature and also for any desired closeness of temperature down to less than one degree. It is the "mechanical brain" of the Mack Statotherm, and is designed to be vibration proof.

This is done by fastening the bi-metal helix at both ends but still permitting it to rotate by change in temperature. The rod that the helix actuates is set in a vertical position and dynamically balanced; the swerving and swaying of the vehicle having no material effect on the mechanism.

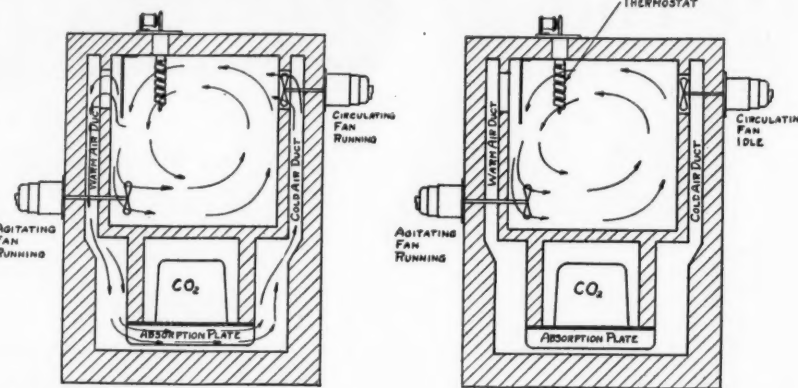
The head of the thermostat, carrying the electrical contacts and temperature scale, is placed outside the body and is therefore not exposed to conditions within the body.

Use Truck Storage Battery

The entire operation of the control and circulating systems is electrical, the current being drawn for this purpose from the truck's storage battery at 12 volts. The current draw represents a very small additional load on a battery and will continue functioning for about 48 hours on a fully charged battery, even though the truck engine does not charge the battery during this time.

The new system was demonstrated during a recent test run from Florida to New York. Since it was desired to prolong the trip for a week's dura-

Mack's New 'Statotherm' System



Schematic diagram of Mack Truck's new system for refrigerating motor trucks. The cooling cycle is shown at left, the 'warming' cycle at right. (See adjoining description.)

tion, overnight stops were made and no effort at speed attempted.

During the 1,200-odd-mile journey from Florida the interior temperature never varied more than one degree from the optimum of 33° F., Mack engineers claim, despite climatic variations that ranged from about 80° F. in Florida to freezing in the North.

Several readings a day were taken from six thermometer gauges located beside the cab, these being connected to thermometers set at six places within the sealed body.

Upon the truck's arrival in New York, the sealed body was opened by Dr. Herbert D. Pease, director of Pease Laboratories, Inc., and his assistant, Dr. Matthews, in the presence of A. F. Masury, chief engineer of the Mack company; O. J. Evers, vice president; M. C. Horine, sales promotion manager; and George O. Hanshaw, Mack engineer in charge of the truck during the trip.

Examine Perishables

A preliminary examination by eye and nose seemed to indicate that the perishables were in perfect condition. This was verified later in the day by Drs. Pease and Matthews when a close microscopic examination of the gills and muscles of the fish showed that they were as fresh as when caught in Florida waters, a week before.

Bacteria count proved that decomposition had been effectually prevented by the truck. The same condition was found to exist in the citrus fruits which comprised the balance of the load.

Less than 100 lbs. of solid CO₂ were consumed each day of the trip, it is reported.

KELVINATOR UNITS COOL REACH-IN BOX IN AFRICA

GLENDAL, South Rhodesia, Africa—Kelvinator cooling coils and a compressor were brought to the Howard Training Institute, here, by L. C. Kimbell, principal of the institution, upon his recent return from the United States, and native boys attending the school assisted in constructing a 50-cu. ft. reach-in refrigerator, reports Frank Conroy of the Kelvinator export department.

Mr. Kimbell decided some months ago that a refrigerator was the thing most needed by his school. None was to be had near Glendale, and what is more, no service was available if one was imported.

Principal Kimbell solved both problems when he visited the United States recently. Going to Detroit, he conferred with Mr. Conroy, who suggested that Mr. Kimbell enter a Kelvinator service class.

When he left, he took with him a Kelvinator FB-12 condensing unit and a CT-80 cooling coil.

CANADIAN ENGINEERS DISCUSS ICE CREAM CABINETS

DETROIT—Ice cream cabinet construction methods were reviewed by Charles Cunningham, ice cream cabinet division, Kelvinator of Canada, Ltd., and William Podd, who is in charge of refrigeration of Ottawa Dairies, Ltd., Ottawa, Ontario, Canada, during a visit at the factory here recently.

GETS COMMERCIAL ORDER AFTER 5 YEARS' WORK

PROVIDENCE, R. I.—Five years ago D. J. Kiely made his first call at the Hillsgrove hospital here, with the idea of interesting the officials in Frigidaire commercial equipment. The officials took time to think it over and Kiely kept right after the order. He landed it recently—a large commercial box with compressor and two household models.

WIBLE WILL MANAGE COMMERCIAL DIVISION

MANSFIELD, Ohio—H. W. Wible has been appointed manager of the commercial refrigeration and cooking division of the Westinghouse Electric & Mfg. Co., according to R. E. Imhoff, merchandise sales manager.

Until recently, the commercial cooking and the commercial refrigeration divisions of Westinghouse were two separate departments, but they have now been combined under Mr. Wible's direction and affiliated with the merchandising department.

Mr. Wible took over the management of the commercial cooking division in 1930, and since that time he has built up a complete line of heavy-duty and counter-cooking equipment.

Previous to 1930 he had served Westinghouse in many capacities, at one time holding the position of manager of the industrial and interior commercial lighting and rectifier division.

SELLS MILK COOLER TO FARMER ON WINTRY DAY

SALT LAKE CITY, Utah—On one of the coldest days this winter Salesman N. Dean of Zion's Cooperative Mercantile Institute, Kelvinator distributor here, recalled a milk cooler prospect, 10 miles out in the country, who last summer had dismissed Mr. Dean with a suggestion that he "call around next winter."

Salesman Dean went out to his garage, thawed out his car, and set forth.

"Wouldn't it be nice if you could save some of this cold for next summer," he greeted Leonard Wendel, dairy operator.

"Is that why you came all the way out here on a day like this?" inquired the prospect.

"No," countered Mr. Dean, "I came to provide you with refrigeration service which is more reliable than Mother Nature's brand."

He returned to town with an order for a Kelvinator compressor and coils.

URNS GROCER; GETS ORDER FOR G. E. DISPLAY CASE

NEW ORLEANS—Thomas Mitchell, commercial salesman for General Electric Appliances, Inc., General Electric refrigerator, range, and dishwasher distributor here, deserves the title of "most persistent salesman."

He had just about "sold" a grocer on the idea of purchasing a General Electric conditioned air display case. When he called a few days later to get the order he found that the prospect had purchased a second-hand refrigerated case.

As the grocer's store was crowded, he was too busy to talk with Mitchell. The salesman started to help wait on customers, and stayed in the store from 2 p. m. until 11:30 p. m., closing time.

After the store was closed Mitchell again told his story of G. E. refrigeration to the prospect and his wife, with the result that the grocer scrapped the second-hand display case and installed a General Electric.



ANNOUNCING

THE NO. 250
"GENUINE DETROIT"
CONTROL SWITCH

for pressure or temperature control in Refrigeration

Embodying old and tried principles in a compact unit, the No. 250 "Genuine Detroit" Control Switch has been designed especially to meet refrigeration requirements. It carries 110 or 220 volts up to 1 H. P. on AC and 1/2 H. P. on DC. Adjustment for "cut in" and "cut out" points is easily made. And the entire unit is completely enclosed in a black Bakelite case.

Model MB-3 for low side pressure control. Model ML-1 for temperature control. Model MIBA Dual type for low side pressure and high pressure cut out. Model MIBL Dual type for temperature control and high pressure cut out. Write for literature and prices on this newest refrigeration control.

DETROIT LUBRICATOR COMPANY

Trumbull, Lincoln, Marquette & Viaduct

DETROIT, Mich., U. S. A.

Lubricators • Carburetors • Valves

Automatic Controls for temperature, pressure, humidity. Refrigeration, Oil Burner and Heating Accessories

Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION



Howell Has the
Answer to Motor Noise

THE "accepted" limits of motor noise did not satisfy Howell engineers. The Howell Capacitor Motor had to be extra quiet. So a scientific study of all the various motor noises was made and each noise taken separately, was reduced to a minimum.

As a result, Howell motors are kept uniformly quiet. Noise

measurements are made on each motor, and kept within specification limits as readily as other motor characteristics, such as torque and currents.

This uniformity and instrument measurement of motor noises to a definite specification, safeguards the refrigerator manufacturer—the dealer—and the ultimate buyer.

Howell Electric Motors Co.
Howell Michigan

Motor Manufacturers for 18 Years

Howell Sales and Service in over 50 principal cities

NEW BUILDINGS ARE FRIGIDAIRE EQUIPPED

BALTIMORE — During 1932, the Baltimore sales branch of Frigidaire Corp. secured several large contracts for refrigerating equipment to be used in public buildings, according to H. H. Zimmerman, Frigidaire commercial sales manager.

Equipment purchased by the city of Baltimore was installed in Northwest Junior high school, Northeast Junior high school, East Baltimore Colored high school, School No. 97, Enoch Pratt library, Baltimore City hospital, and Annapolis high school.

The state of Maryland purchased Frigidaire equipment for the state roads commission, Crownsville hospital, Maryland House of Correction, Pikesville armory, Towson State Normal school, Montrose School for Girls, and University of Maryland.

To the United States government, the local sales branch sold equipment for three ships in the lighthouse service, two household models for the coast guard, equipment for the Coast Guard cutter "Moscoutin" and U. S. Naval experiment station.

MCDONALD RESIGNS FROM PRESIDENCY OF CREAMERY

DETROIT—Harry A. McDonald, recently resigned as president of the Detroit Creamery Co. and the Arctic Dairy Products Co., has organized a new investment firm, McDonald, Moore & Hayes, with offices in the First National Bank building here.

Arctic Dairy Products Co., under Mr. McDonald's guidance, was one of the first large users of electrically refrigerated ice cream cabinets.

In recent years the Detroit Creamery and Arctic Dairy Products Co. (units of National Dairy Co.) have been noted for their "model" service plant and operating set-up for the servicing of ice cream cabinets.

Restaurant Buys G. E. Refrigerator

NEW YORK CITY—J. Physioc, newest addition to the corps of commercial department salesmen of Rex Cole, Inc., General Electric distributor here, recently sold a G-175 to Hank's Restaurant the first two weeks he was with the company, according to L. Howard Jenks, Jr., manager of the commercial department.

H. C. Viator made a record for the water cooler division when he made a sale of three General Electric DPI water coolers, and 16 DB1 coolers to the Corn Products Refining Co., Jenks reports.

Frigidaire Gets \$72,000 Contract from Navy

DAYTON—A contract covering \$72,000 worth of electric refrigerators and electrically cooled drinking fountains has been awarded by the U. S. Navy to Frigidaire Corp.

Twenty-eight refrigerators and the same number of drinking fountains are for installation on the cruisers *Minneapolis*, *San Francisco*, *Astoria*, and *New Orleans*, now under construction. Seventy-five refrigerators and 34 drinking fountains are for installation during the next 60 days on ships in active service. F-12 refrigerant is to be used in all installations, under terms of the contract.

Westinghouse Installs Units on Cutter

DETROIT—Three Westinghouse refrigerators are installed on the U. S. Coast Guard Cutter *Escanaba*, which was recently commissioned for service on the Great Lakes.

The refrigerators installed include one DWL-130, one DWP-130, and one DWP-55.

The Coast Guard stations at Muskegon, Mich., and Port Huron, Mich., have been equipped with Westinghouse refrigerators, model AL-90.

The refrigeration division of Westinghouse Electric and Supply Co. of Detroit made the sale.

Telephone Co. Orders 11 G. E. Water Coolers

WATERBURY, Conn.—Eleven water coolers were purchased recently from Modern Home Utilities, Inc., General Electric distributor here, by the Southern New England Telephone Co.

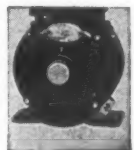
MADE COMMERCIAL MANAGER

PITTSBURGH—Paul L. Chamberlain, formerly manager of the Cleveland office of the C. R. Rogers Co., Kelvinator distributor here, has been appointed manager of the commercial sales department of the company in this section.



MAJOR IMPROVEMENTS in the 1933 Type KC "Care-Free" Capacitor-Motor

EIGHT years ago, General Electric made the pioneer application of a capacitor-motor to an electric refrigerator. That installation and thousands of others since that time have established a growing preference for this motor. The 1933 G-E capacitor-motor has not only the improvements made during the last eight years, but also these major improvements:



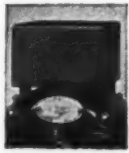
- 1 DRIP-PROOF END FLANGES**
A new feature which improves the appearance and prevents any foreign material from dropping into the motor.



- 3 OIL CAPACITY DOUBLED**
Improved wool-packed bearing contains twice as much oil as before. The oil is held in capillary suspension exactly as water is held in a sponge. This prevents spilling of oil and assures longer bearing life.



- 2 SIMPLIFIED CONNECTIONS**
A terminal board in the flange eliminates all necessity for splicing and soldering leads. Three binding posts are provided for direct connection of line and cold-control leads.

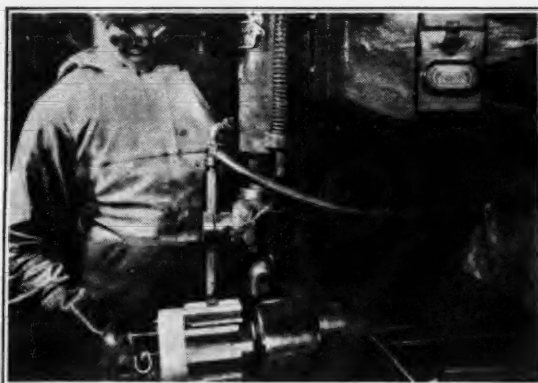


- 4 SMALLER CAPACITOR CASE**
As capacitor unit is one-half as large as before, less space is needed in your refrigerator for the power unit.

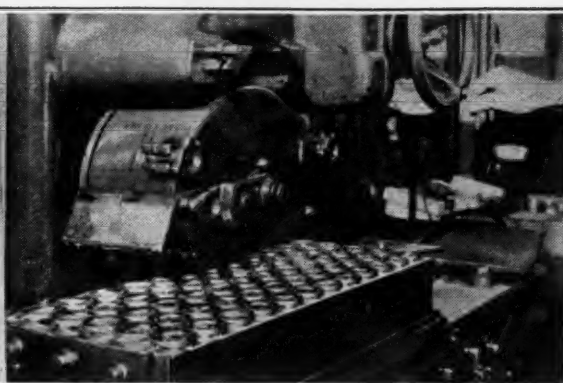
Each of these features represents an additional reason why it will pay you to investigate the 1933 Type KC capacitor-motor. Complete information is available through a G-E office near you, or address General Electric Company, Schenectady, N. Y.

GENERAL ELECTRIC

HOW WESTINGHOUSE MEN WELD, GRIND, INSPECT & TEST



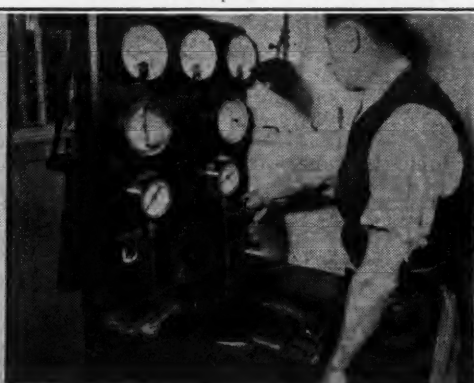
Workman in the Westinghouse plant at East Springfield, Mass., spot welds copper fins to the pressed steel compressor cylinder.



Cylinder heads are faced on a grinder with a magnetic clutch so that when assembled they will be gas-tight without gaskets.



Electric gauges which detect .00005 in. are used to measure cylinder diameters; then pistons are matched with cylinders.



In this test, every compressor must pump a certain volume of air in one minute without excessive power input.

Refrigerating Machine Manufacture Requires Close Tolerances

By F. A. Harshberger, Refrigeration Engineer,
Westinghouse Electric & Mfg. Co., East Springfield, Mass.

PRODUCTION of Westinghouse hermetic refrigerating units requires some of the most accurate machining operations done by the Westinghouse company—some tolerances being of the order of only two or three ten thousandths of an inch.

These close fits are accomplished by precise machining, careful grinding or honing, and careful inspection of finished parts.

The tooling equipment includes standard and special machine tools, heating ovens, heat treating furnaces, and welding apparatus, and also a large number of special tools such as jigs and fixtures, gauges, and testing equipment. Each of these has been designed to do one particular job in a minimum time, and to eliminate all setting up and laying out of work.

A modified straight line system of production is used to allow a continuous, even flow of material and to

minimize intermediate piling up and storage of parts. Handling of material is done by a continuous overhead conveyor system, supplemented by roller conveyors.

The overhead conveyor starts at the storeroom and carries, at intervals of a few feet, baskets which are filled with parts and fed out as required. It moves quite slowly, so the various groups have ample time to observe and remove parts consigned to them, or put on finished parts.

Production naturally falls into four more or less well defined types of activities; manufacturing parts, inspection, assembly, testing. While there is much overlapping of these processes, they come in general in the order named.

The welding and machining operations on the compressor shell are among the first steps in production. This is a heavy pressed steel shell

which has the feet, cooling fins and thermostat plate attached by electric spot welding.

In these, as in all operations, jigs are provided so that the workmen lose no time in setting up or laying out work. The inside diameter of the shell must be accurately turned, in order to allow the motor housing to be pressed in.

One Worker on Two Lathes

Lathes are set up for this job so that one cut is generally sufficient. One workman operates two lathes. When a shell is completed, a false end is clamped on and it is given an under water pressure test of 200 lbs. air, to see that there are no leaks at any of the welds, or where the terminal bushings and charging tube are brazed in.

The machining of the cast iron motor frame is begun on a Bullard Multitatic machine, which rough turns it inside and out, and reams the bearing hole. One of these machines has a capacity of over 30 frames an hour, and the operator also has time to end face the frames on a vertical mill. The finish cuts are done on lathes set up for the purpose.

The finishing of the bearing is one of the jobs where great accuracy is necessary, so that the crankshaft will be a perfect fit, with just the allowable clearance for oil film. This is done on a honing machine which takes off only a few ten-thousandths of an inch.

Boring, Facing, and Honing

The cast iron cylinder is another piece that is machined with an accuracy that a few years ago was not considered attainable in production. After rough boring and facing, the bore is ground to within a few ten-thousandths of an inch of the required size. Machine honing is used to bring it to final size and give it the proper finish.

The general method used on these parts is to bring them down to within a few ten-thousandths of the final size by grinding, and then lap or hone finish.

Swedish steel flapper valves are used. Valves, valve plate, and cylinder head are gas tight without the use of gaskets, which requires that they be absolutely flat. For this reason, the valve plate and cylinder head are finished by hand on a cast iron lap, which produces a surface so flat and smooth that they will adhere if pressed together. The first machining of these parts is done on a grinder with a magnetic chuck, holding a number of pieces.

Separate Sections of Plant for Parts

Motors, controls, and condensers are built in separate sections of the plant, while manufacturing of evaporators and thermostat discs is carried on at Mansfield, Ohio.

Before assembly, each part is subjected to a rigid final inspection. To the visitor, this section, which is located between the machining and assembly sections, is one of the most interesting parts of the final operation.

A complete equipment of special gauges is provided, and these are standardized at frequent intervals by Johanssen blocks and other master gauges.

In general, the application of a gauge at one point of a piece is not considered sufficient. The crankshaft, for example, is measured with a "go and no-go" snap gauge at a number of places along its length, and in two radial directions at right angles to each other.

Piston diameters are measured on a Zeiss Optical Gauge, one of only a few which have ever been built. This will readily detect a difference in diameter as small as one twenty-thousandth of an inch. Each piston is numbered according to its diameter, in variations of one ten-thousandth inch and is then fitted to a cylinder of the corresponding diameter.

This selective assembly allows a little more lee-way in manufacturing and still assures that the required oil film clearance between the piston and cylinder will not vary by more than two ten-thousandths.

Cylinder diameters are measured on an electric gauge that shows a difference of one thousandth inch by a needle swing of several inches, so that a variation of one ten-thousandth is easily detected.

Both before and after inspection,

parts having finely finished surfaces are protected by wrapping in paper or placing in suitable racks.

The rotor, crankshaft, cylinder, connecting rod, and other parts are then assembled on to the motor frame, making a complete compressor assembly except for pressing into the steel shell. The compressor is washed by repeatedly immersing it in a bath of solvent. A special washing machine devised for the purpose handles two compressors at a time.

Running in Compressors

Run-in troughs with provision for lubrication are suspended from a monorail track. The compressors are placed in these and allowed to operate under their own power for a number of hours, to wear them in.

Thereafter, each compressor is given a pump test, in which it must be able to pump a certain minimum volume of air in one minute, and pull not over the allowable wattage. This test reveals any machines having leaky pistons or valves, or which are bad pumps for other reasons, also any which consume too much power.

Following this test, the compressor is pressed into the shell and the end head welded in place, after which it is given another 200-lb. pressure test under water.

The next step is the intermediate assembly, where the compressor, evaporator, float valve, and condenser are assembled on to the unit base.

Tubing Joints Are Brazed

All tubing joints are brazed, there being no flared fittings or soft solder on the machine. The units are placed upside down (to allow the float to stand open) in racks which travel on an overhead monorail track, and are ready to be dehydrated and charged with refrigerant and oil.

Removal of all moisture from the interior of the machine before charging is one of the most difficult operations, Westinghouse engineers having developed a special method for this operation.

After treatment, the units are charged, and samples of the charge removed and tested. This reveals the success of the dehydration, and to pass, the sample of refrigerant must show a moisture content of not over .006 per cent.

The fan and control are then put in place, and the unit is ready for the final test. For this, the evaporator is insulated by proximating the conditions obtained in a refrigerator cabinet.

The unit is first run continuously and the lowest suction pressure which

it is able to pump is noted. It is then allowed to cycle for a number of hours. Each unit is fitted with a recording suction pressure gauge, head pressure gauge, and wattmeter, which reveals any defects in either unit or control.

Quietness, however, is checked in a sound-proof room through each unit passes on its way to the final assembly and shipping lines.

On the last assembly line, the units are painted, charging tube pinched off and brazed, evaporators washed, ice trays inserted, and other details taken care of. They are also given a visual inspection and a final leak test. This last consists in placing each unit in a gas tight glass box filled with ammonia fumes, any leak being revealed by white smoke. They are then crated and shipped.

NEW DEFROSTING DEVICE SOLD BY BOND ELECTRIC

CHICAGO—A new device for automatically defrosting an electric refrigerator once every 24 hours is being manufactured by the Waterbury Clock Co., Waterbury, Conn., for Bond Electric Corp. with offices in Chicago, Jersey City, and San Francisco. The "Frostoff," as it is called, will be distributed through refrigeration dealers and distributors.

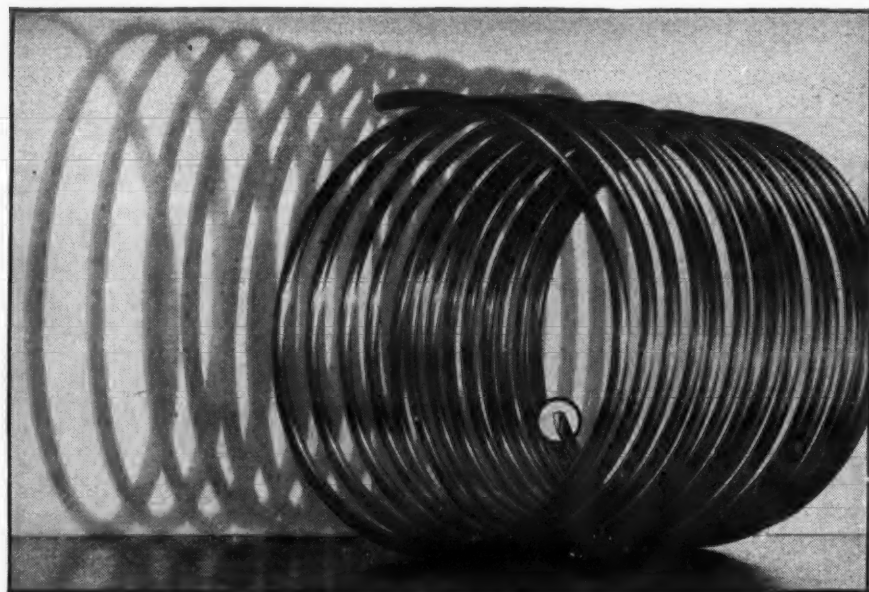
The device is enclosed in a bakelite case, finished in white enamel, and has brackets for mounting on the baseboard of a kitchen, next to a refrigerator.

The "Frostoff" uses a small self-starting synchronous motor which operates a switch to interrupt the flow of current into a refrigerator, once every 24 hours, long enough to permit defrosting. To prevent sparking in the device, it has a protective relay which does not permit the switch to operate under a load.

To install the defroster, it is plugged into the outlet into which the refrigerator had been plugged, and the refrigerator cord is plugged into the outlet on the "Frostoff."

Then the hand on the front of the case is set to the number of hours that should elapse before the next defrosting is to take place.

Designers of the device recommend that a refrigerator be defrosted at 1 o'clock in the morning, so the installer simply computes the number of hours until 1 o'clock in the morning, and sets the pointer to this number of hours. For instance, if the "Frostoff" is installed at 4 p. m., from 4 p. m. to 1 a. m. is nine hours, so the pointer would be set to the figure 9.



FRENCH TUBES to fill every standard and special need

THERE ARE French Copper Refrigeration Tubes . . . small diameter and thin wall seamless tubes . . . for every refrigeration requirement.

Stock sizes are 1/4 in., 3/8 in., 7/16 in., 1/2 in., 5/8 in., and 3/4 in., all in .035 in. gauge. Heavier gauges can be made to order. Stock coils are 25, 50 and 100 feet long. Longer lengths can be supplied at short notice.

French Deluxe Copper Refrigeration Tubes are free from oxide and foreign matter. Each coil is completely dehydrated sealed, rigidly tested and reaches you ready for use. For manufacturers who prefer to do their own dehydrating, the French Manufacturing Company produces copper tubes dried (commercially dehydrated), with either open or closed ends.

All French Copper Refrigeration Tubes possess the requisite properties for lasting, dependable service. Their grain structure is uniform. This important quality is in every coil because highest metallurgical skill, long manufacturing experience and only the best of raw material go into their production. Additional information will be furnished upon request.



THE FRENCH MANUFACTURING CO.
General Offices: Waterbury, Connecticut

FRENCH REFRIGERATION TUBES

The MULLINS

SHEET METAL

EVAPORATOR

Sanitary
Compact
Efficient

White
Porcelain
Enamel

DESIGNS FOR USE WITH HIGH SIDE AND LOW SIDE FLOATS — IMPROVED FAST FREEZING SHELF AT SLIGHTLY INCREASED COST.

Manufacturers: Write for Details!

MULLINS MANUFACTURING CORPORATION
REFRIGERATION DIVISION
SALEM, OHIO

ENGINEERING

REPLOGLE DESCRIBES NEW COPELAND UNIT

(Concluded from Page 1, Column 5)
of five different operating temperatures pointed on the Coldial.

Model W-42 has 4.16-cu. ft. capacity (net, Nema rating), and 8.97 sq. ft. of shelf area. Exterior hardware (supplied by the Grand Rapids Brass Co.) has a bright chrome finish. Food compartment is finished in porcelain. It has three flat-bar shelves, the lower shelf sliding. Three ice trays (one double depth) provide 48 large-sized ice cubes at a single freezing.

Model W-52 has 5.11-cu. ft. capacity and 10.81 sq. ft. of shelf area. It has four shelves, the lowest shelf sliding. Two ice trays (including a quick-ejecting rubber tray) supply 77 ice cubes.

Model P-6 has 6.01 cu. ft. of storage space, and 13 sq. ft. shelf area. Within the food compartment are four shelves (lowest sliding) and a removable slide basket. Three ice trays, including a rubber tray and a double depth drawer, provide 105 ice cubes. This model has an interior electric light.

Model P-7 has 7.3-cu. ft. capacity and 15.26-sq. ft. shelf area. Four shelves, a slide basket, three ice trays providing 105 cubes, and an interior electric light are standard equipment.

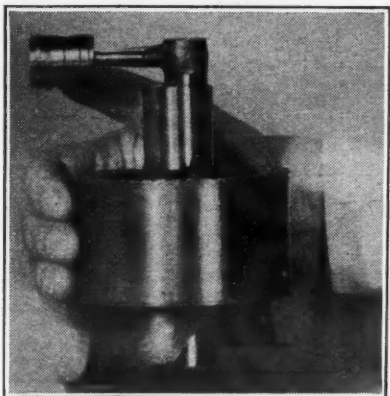
Model P-11 has 11.12-cu. ft. capacity and 22-sq. ft. shelf area. Two sets of eight shelves, with the lowest shelf of each set sliding, are within the food storage compartments. Two double-depth and two rubber trays supply 154 ice cubes.

All cabinets are furnished with a defrosting tray for chilling salads.

The new Copeland condensing unit is of the package type with motor and compressor inside the same housing, and entirely different in appearance and design from the previous unit. John R. Replogle, chief engineer of the company and designer of the unit, points out that the motor is placed inside the crankcase.

He shows that by changing from a slow-speed belt drive (360 r.p.m.) to a

Three Moving Parts

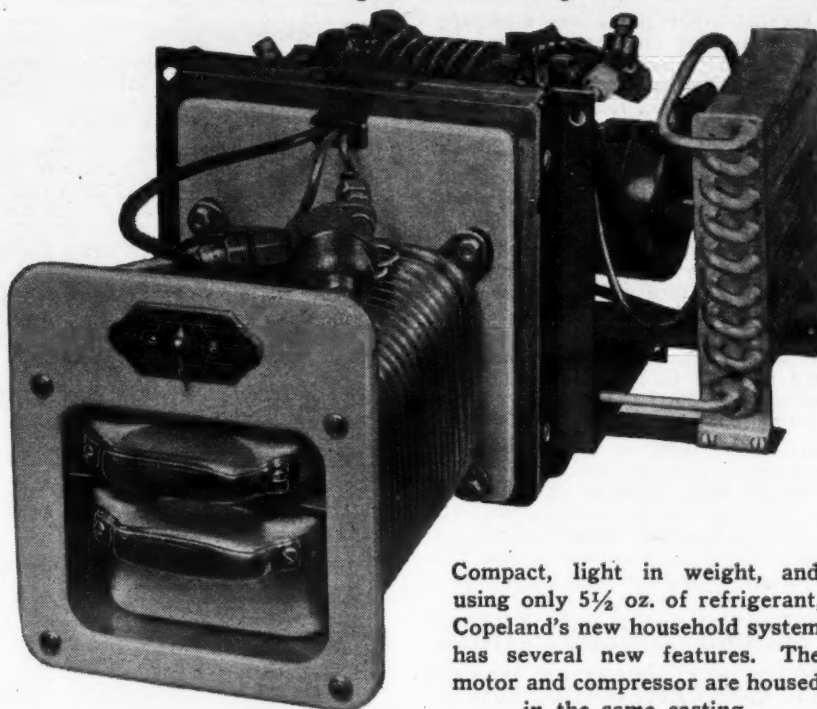


Piston, connecting rod, and rotor of the new Copeland machine.

high-speed direct drive (1,735 r.p.m.) a great reduction was possible in the compressor size. Bore and stroke of the new unit are 15/16 by 1/2 in. as compared with 1 1/2 by 1 1/2 in. in the previous series.

Capacity of the new unit is greater, being 101 lbs. of ice melting effect per 24 hours, A.S.R.E. rating. Likewise, in terms of B.t.u. refrigerating effect per

74-lb. Copeland System



Compact, light in weight, and using only 5 1/2 oz. of refrigerant, Copeland's new household system has several new features. The motor and compressor are housed in the same casting.

watt of power consumption, it is 22.5 per cent more efficient than the last series, Mr. Replogle claims.

The new compressor has only three moving parts (piston, connecting rod, and rotor of the motor) as shown in the picture above. Wearing surfaces have been minimized, he states, and all holes are diamond-bored, except for screw holes.

Since the new unit is not hermetically sealed, service may be done either in the field or at the factory, depending on the nature of the adjustment.

In operation, methyl chloride gas enters the suction side of the machine through a suction valve, crosses the width of the unit through a hole in the center of the crankshaft to the crankcase on the opposite side, where

it passes up through a tiny disc valve in the piston, up and out through a discharge valve.

The compressor incorporates an oiling system of unique design which provides a dry crankcase, preventing mixture of oil and the refrigerant.

Two blades (termed oil-slingers by Mr. Replogle), revolve with the rotor on the suction side of the compressor to pick up oil from a reservoir in the bottom of the motor housing. The blades drop the oil into a pocket on the end-plate of the compressor, and the oil flows by gravity through a small tube into the hole in the crankshaft.

Centrifugal force then presses the oil up to all bearing surfaces, where it lubricates and drains back to the

Despatch Oven Makes 4 Appointments

MINNEAPOLIS—Four new appointments have been made in the engineering and selling personnel of the Despatch Oven Co. here, according to H. L. Grapp, secretary of the company.

K. J. Papke has been appointed district engineer in charge of sales in the Milwaukee territory; E. C. Buehrer, northern California territory; W. Glen Tipton of the Equipment Engineering Co., Indianapolis, in charge of sales in the Indianapolis territory covering central Indiana; and W. F. Hebard & Co., Chicago, in the Chicago territory covering northern Illinois and the northwest section of Indiana.

G. E. ENGINEER TO DIRECT WORLD'S FAIR LIGHTING

SCHENECTADY, N. Y.—W. D'Arcy Ryan, veteran General Electric illuminating engineer and former director of the company's illuminating engineering laboratory, has been appointed director of illumination for the World's Fair, according to Lenox R. Lohr, general manager of the exposition.

General Electric Co. and Westinghouse Electric & Mfg. Co. have agreed to cooperate with their laboratory and technical resources in planning and carrying out illumination of the fair.

reservoir on the suction side of the unit. The system has 100 c.c. of oil.

The 1/6-hp. capacitor-start Delco motor has sufficient stalled torque to start the machine without an unloader, Mr. Replogle states, the motor starting in electrical connection with an electrolytic condenser of 100 mfd. capacity.

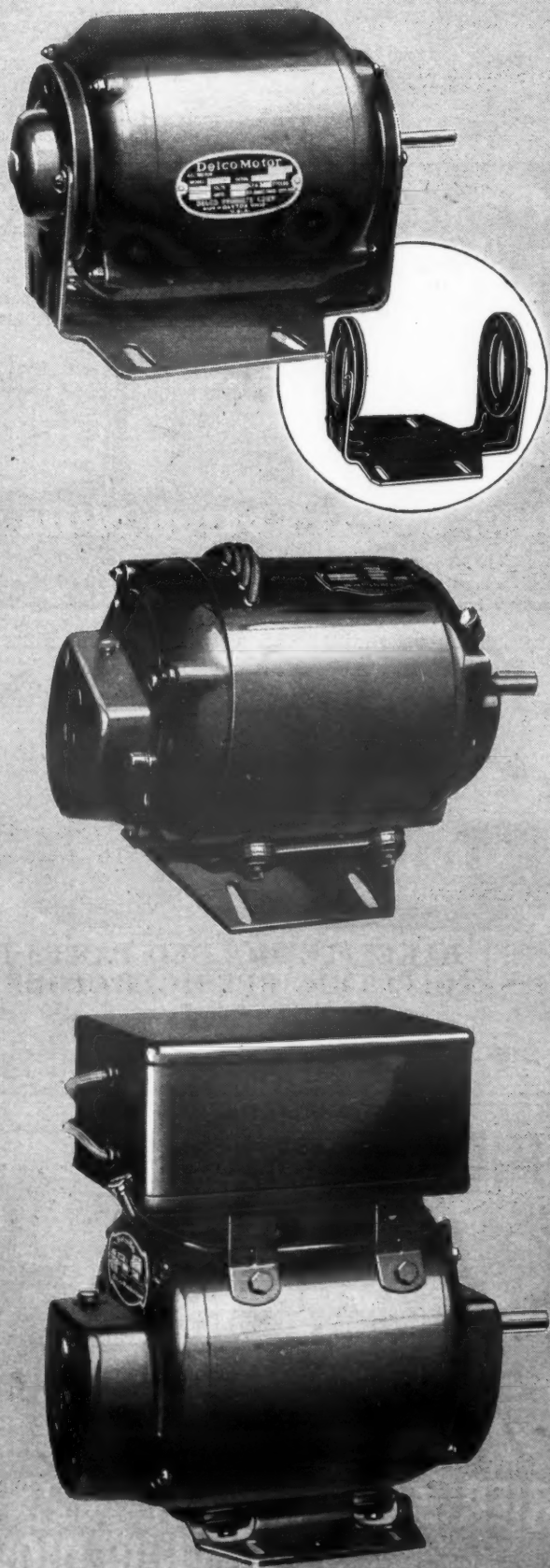
The system uses Detroit Lubricator's automatic expansion valve, Penn Electric's new control with a defrosting cycle, and a special Bush-made condenser incorporating a small liquid receiver. Driving the four-blade fan for condenser cooling is a small .01-hp. motor.

A REFRIGERATOR IS NO BETTER THAN ITS MOTOR

A good motor may get little recognition, it is true. But a motor that fails fosters distrust in the entire mechanism, and can do untold damage to your reputation. Regardless of what you can say for the merits of your compressor, the distinctive design of your cooling unit, or the finish of your "box," it's no better than the motor you use. It pays always to use the best motor you can buy—a motor that has demonstrated its ability to keep the wheels turning, through all the seasons, in household refrigerator service. More than two million Delco motors have given satisfaction. These motors were designed expressly for electric refrigerators. They are provided in split-phase, repulsion-induction and condenser-transformer types, individually engineered to fit each installation. Protect your reputation—use Delco motors.

DELCO PRODUCTS CORPORATION

DAYTON, OHIO



ENGINEERING

FOOD MARKET USES
CENTRAL CONTROL

GREENSBORO, N. C.—Engineers of the Home Appliance Co. recently designed and installed refrigerating equipment for the Patterson food department store, with a centralized control system built up with Kerotest diaphragm packless valves.

The advantage of this set-up is that it will not be necessary to apply a tool of any kind in order to make adjustments, ascertain the charge of refrigerant, defrost, or disconnect from service any particular case or refrigerator in the store, engineers state.

Permanently mounted gauges and a Kerotest liquid indicator make it possible to check operation of expansion valves and low-pressure controls; check for high head pressure caused by air in the system; check for shortage of gas; or check for clogged liquid line.

The installation provides that future changes or rearrangements such as installing new display cases can be done without service interruption of the other cases or stopping the machine.

The liquid line on the left goes to a delicatessen case 86 ft. from the valves.

The refrigerant first passes through a master dehydrator and filter, then through the Kerotest liquid indicator. The liquid indicator was installed at this point so that in the event the dehydrator stopped up, the indicator would immediately show that the liquid was not passing through. The individual filters are placed in the lines to protect each expansion valve from any foreign matter.

Just two special fittings were used in the entire layout: one tee $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ in. S.A.E. and one tee valve $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ in.

S.A.E. All other parts are standard Kerotest fittings. The copper tubing on the manifolds is looped so as to eliminate dead ends on suction manifolds and thus reduce friction losses in the suction lines.

The entire panel board represents an investment of only \$150 including all relay switches, both master and shut-off.

That this type of centralized control will prove an excellent form of investment is illustrated by the fact that under the old system of installing units, the cost of servicing one expansion valve with a clogged strainer would amount to 10 per cent of the total cost of the layout, Home Appliance engineers state.

Equipment used in the installation was furnished by the following manufacturers: Allen Bradley Co., Fedders Mfg. Co., General Electric Co., Kelvinator Corp., Kerotest Mfg. Co., Servel Sales, Inc., U. S. Gauge Co., and the Wolverine Tube Co.

WILLIAMS BUILDS THREE
NEW CONVENTIONAL UNITS

(Concluded from Page 1, Column 2)

and in later weeks all other distributors are to be schooled in the 1933 sales story, he states.

Features of the new models are a new temperature control (manufactured by Penn Electric Switch Co.) which provides semi-automatic defrosting, double-depth freezing trays for desserts, and use of the new Williams-built capacitor motor.

"The capacitor motor in its present form was first designed by Benjamin F. Bailey, professor of electrical engineering at the University of Michigan," Mr. Bell relates. "Its operation on

single phase current approaches polyphase performance," he declares.

In the new motor, he explains, two-phase current is obtained by the use of an electrical condenser which displaces the current in one winding of the motor so that it leads the current in the main winding. This gives the rotating magnetic field which is necessary to start an induction type of motor.

"In order to obtain the high starting torque such as is desirable for electric refrigeration, it is necessary for the flux produced by the condenser winding to be comparatively high during starting period," Mr. Bell states.

"This may be obtained in two ways. One is to use a condenser bank of very high capacity in series with the condenser winding. The other method is to use a small condenser bank and apply a high voltage to it by means of a transformer which is in series with the condenser winding."

The latter method is somewhat more expensive, Mr. Bell says, but Williams engineers believe that superior performance of this latter type justifies the additional expense.

This latter method enables Williams to use the condenser during the running period of the motor by applying a somewhat lower voltage to it than is used at the start, he continues.

"This gives a higher power factor and better efficiency than may be obtained without the use of the condenser during the running period."

"There are no rotating wound parts in a capacitor motor, the rotor consisting of steel laminations through which copper bars are passed. These copper bars are all held together at their ends by means of copper rings."

Mr. Bell cites elimination of the commutator, brushes, and short circuiting mechanism as improvements, making the capacitor motor almost radio-proof.

The Williams motor has a cradle type of rubber mounting, and lubricated bronze sleeve bearings with oil wells packed with virgin wool.

The motors meet all requirements of the National Electrical Manufacturers Association, the American Institute of Electrical Engineers, and the National Board of Fire Underwriters, Mr. Bell states.

Complete specifications of the new Williams conventional models follow:

Model or Catalog No. Y-4 Y-5 Y-6

CABINET SPECIFICATIONS

Overall dimensions			
Height (inches)	58½	56½	59
Width (inches)	24½	25½	28½
Depth (inches)	21½	23½	25
Inside dimensions of liner			
Height (inches)	19	29½	31
Width (inches)	26	20½	22
Depth (inches)	15½	16½	17½
Number of doors	1	1	1

STORAGE CAPACITY

Gross storage capacity	4.43	5.77	6.9
Net food storage (cu. ft.)	4.0	5.3	6.4
Number of shelves	4	5	5
Total shelf area (sq. ft.)	7.9	10.0	11.3
Greatest distance between any two shelves	6½	6¾	7¾
Shortest distance between any two shelves	5¾	5	5

ICE CUBE TRAYS

No. of ice cube trays	2	3	4
Inside dimensions of trays			
Length (top of tray)	11¾	11¾	11¾
Width (top of tray)	4¾	4¾	4¾
Depth	1¾	1¾	1¾
No. of cubes produced	42	63	84
Weight of ice cubes	2.8	4.2	5.6

COMPRESSOR SPECIFICATIONS

Capacity (lbs.)	88.5	88.5	88.5
Motor size (hp.)	1/6	1/6	1/6

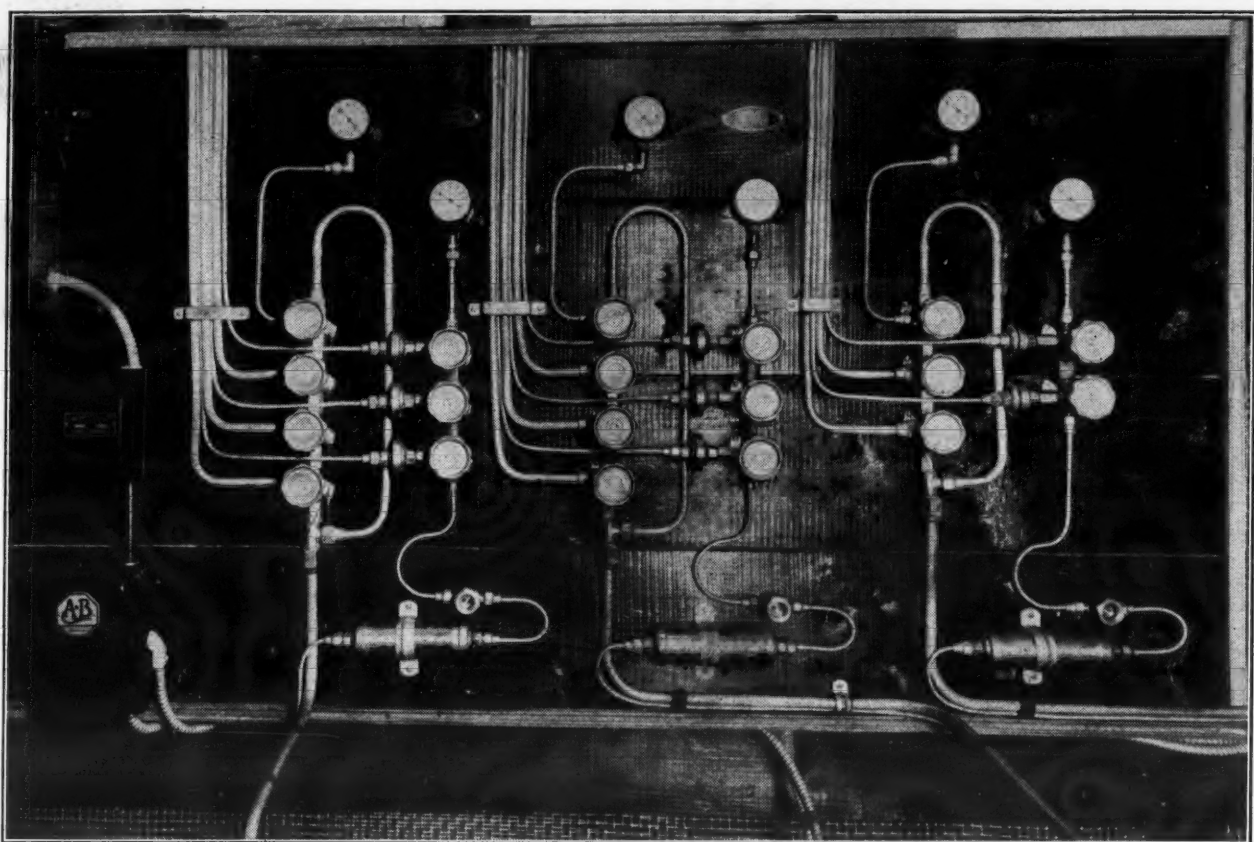
CABINET MATERIALS

Material used for exteriorMetal
Material used for frameSteel
Finish of shelvesFlashed

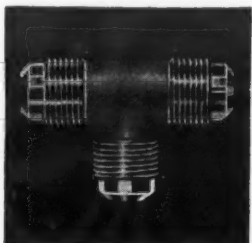
INSULATION

Nature of materialVegetable
Bulk or formed slabsFormed slabs
How waterproofedWrapped and sealed

Centralized Control with Kerotest Valves

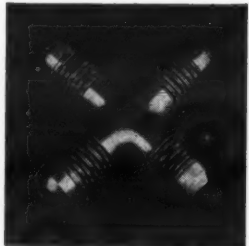


Flexibility in operation of a large food store installation is attained by the above control system, installed by the Home Appliance Co. See description at left.

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Refrigeration Industry

When the problem of seepage prevention confronts the leaders of the automatic refrigeration industry, they always specify Commonwealth Brass Seepage-Proof Fittings because they are "Built Right—To Stay Tight."

The hot forging of Commonwealth fittings provides the maximum strength and density which makes them positively seepage-proof. Each tube seat is a perfect duplicate of its brother and is protected from marring or nicking during shipment.



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PATENTS

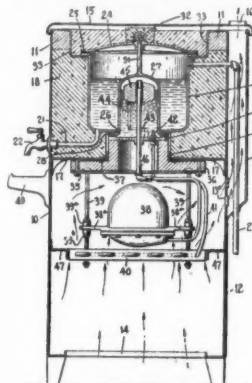
ISSUED JANUARY 24, 1933

1,895,084. FLOAT VALVE. Frank D. Peltier, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed Aug. 9, 1930. Serial No. 474,127. 6 Claims. (Cl. 137-103.)

1. The combination of a float chamber, means for the admission and discharge of fluid into and from said chamber, means for controlling the discharge of fluid from the chamber, a float operating said discharge controlling means, a piston connected to said float and means for venting the chamber on the remote side of the piston to the atmosphere to permit pressure within the float chamber to move, said piston and raise the float to render inoperative the discharge controlling means.

1,895,085. WATER COOLER. Frank D. Peltier, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed Oct. 14, 1930. Serial No. 488,606. 19 Claims. (Cl. 62-141.)

1. A water cooler comprising a cabinet, a container for water permanently secured within the cabinet, and a refrigerating ap-



1,895,085

paratus removable as a unit from the cabinet and mounted beneath said container, said refrigerating apparatus having a cooling element associated in good thermal contact with the container in a manner to cool water within the container.

1,895,089. SELF-SERVE FOOD CASE. Tyler F. Snodgrass, Denver, Colo. Filed Jan. 16, 1932. Serial No. 587,089. 3 Claims. (Cl. 312-138.)

1. A refrigerator comprising, a case having an opening at the top, a straight inclined track at each end of the opening, the two tracks being parallel and lying in the same plane, a roller assembly supported on each track, a glass plate having its ends supported on the rollers, a pair of flexible tension members attached to the upper edge of the glass plate, pulleys secured to the refrigerator case above the upper edge of the inclined glass plate, said members passing over the pulleys, a weight secured to the end of each member, the value of the weights being slightly less than the component force tending to move the plate downwardly along the inclined track whereby, when the plate is released, it will automatically move downwardly into closed position and holding devices secured to the track members and projecting over the ends of the glass plate to guide the latter and to hold it in position on the rollers and prevent its accidental displacement.

1,895,092. SYSTEM AND METHOD OF LUBRICATING COMPRESSORS. Edward T. Williams, New Rochelle, N. Y. Original application filed July 31, 1926. Serial No. 126,172, now Patent No. 1,750,293. Divided and this application filed April 2, 1929. Serial No. 352,012. 15 Claims. (Cl. 184-6.)

15. In a lubricating system, a resistance unit comprising, in combination, a conduit member, a second member threaded therein, the threads on the two members being of different conformation to provide a spiral lubricant passageway therebetween.

1,895,133. TUBING. Bert L. Quarnstrom, Detroit, Mich., assignor to Bundy Tubing Co., Detroit, Mich., a Corporation of Michigan. Filed May 2, 1930. Serial No. 449,113. 1 Claim. (Cl. 137-75.)

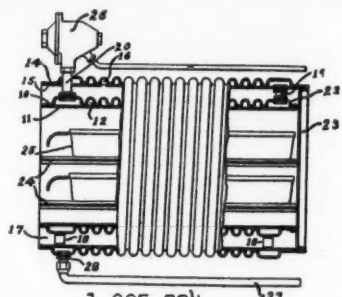
A lap seam tube comprising a strip of metal fashioned into hollow cross sectional shape to form a smooth walled tube, one edge of the strip being offset radially of the tube, the longitudinal edges of the strip being lapped one over the other with one edge fitting upon the offset portion of the other edge, both of said lapped edges being corrugated with the corrugations extending substantially in a circumferential direction with the body of the strip remaining smooth, said corrugations on the two edges being of similar size and shape and interfitting whereby the edges are in close and substantial contact throughout the length of the tube, said edges being united by molten sealing metal.

1,895,224. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed May 30, 1930. Serial No. 474,127. 6 Claims. (Cl. 137-103.)

1. A refrigerating apparatus comprising a cabinet, a container for refrigerant permanently secured within the cabinet, and a refrigerating ap-

1,895,224. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed May 30, 1930. Serial No. 474,127. 6 Claims. (Cl. 137-103.)

7. An evaporator comprising a plurality of spaced concentric refrigerant passages or chambers there-



1,895,224

between, said passages or chambers being in communication with each other, a liquid refrigerant supply connection to one of said passages or chambers and a refrigerant suction connection to another of said passages or chambers.

1,895,295. APPARATUS FOR THE DISTRIBUTION OF GASES UNDER PRES-

SURE BY MEANS OF LIQUEFIED GASES. Charles Picard, Joinville Le Pont, France, assignor to l'Air Liquide Societe Anonyme pour l'Etude & l'Exploitation des Procédes Georges Claude, Paris, France. Filed Dec. 18, 1928. Serial No. 326,895, and in France Dec. 20, 1927. 8 Claims. (Cl. 62-1.)

1. In a pump for liquefied gases at low boiling point, a cylinder dipping in the liquefied gases and means for dissipating the heat developed in the cylinder by the movement of the piston in its cylinder.

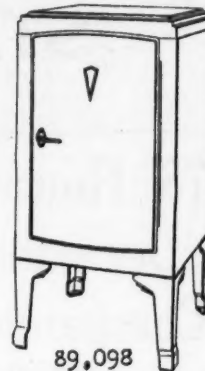
1,895,319. METHOD OF PACKING ICED VEGETABLES. Joseph H. Grande, Los Angeles, Calif. Filed Feb. 21, 1928. Serial No. 256,030. 1 Claim. (Cl. 217-5.)

The method of packing iced vegetables, and the like which consists in folding a cardboard lining impervious to moisture upon the bottom and opposing walls of a crate, taking two additional linings lapping them respectively under the first lining, causing them to overlie the other sides of the crate and project foldably over the top edges of the last named sides, then preparing a layer of chopped ice upon the bottom overlying portion of the first lining, thereafter placing in rows so as to rest upon the ice layer lettuce or the like, then placing a moisture-proof partition upon another layer of cracker ice resting upon the lettuce, and again proceeding as hereinbefore set forth until the folded portions of the other linings are brought back to overlie the uppermost partition, and ultimately closing said crate.

Designs

89,098. REFRIGERATOR CABINET. Charles C. Thomas, Detroit, Mich., assignor

to Kelvinator Corp., Detroit, Mich., a Corporation of Michigan. Filed April 20, 1932.



89,098

Serial No. 43,551. Term of patent 14 years. The ornamental design for a refrigerator cabinet, as shown.

SALESMAN GETS ORDERS FOR 28 COMMERCIAL UNITS

PITTSBURGH—Cy Gorby, commercial refrigeration salesman for the Suburban Electric Development Co., Frigidaire dealer here, closed 28 commercial sales during October, November, and December, 1932. His sales included eleven meat markets, four grocery stores, four restaurants, three delicatessens, and two general stores.

DETROIT FIRM PRODUCES CORRUGATED INSULATION

(Concluded from Page 1, Column 4)

in a manner by which each paper sheet is asphalted separately and rolled into one sheet. All joints are laps of a wrapped package and cemented with a silica of soda sealing compound.

The insulation shows a weight loss of less than 5 per cent when baked for four hours at 250° F. with the wrapper opened. Density is 4 lbs. per cu. ft. Heat conductivity of one inch thickness is less than .27 B.t.u. per hour per sq. ft. per degree temperature difference, engineers claim.

PATENTS

Searches, Reports, Opinions by a Specialist in REFRIGERATION

H. R. VAN DEVENTER

Solicitor of Patents - Refrigeration Engineer

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Testing Laboratory

For refrigerators

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EXHIBITION!

The "New Equipment Number" of Electric Refrigeration News, February 22 Will Be the "Show Place" of the Industry

Unlike the automobile business, the electric refrigeration industry has no annual show or exhibition and no one would think of proposing such an expensive project in these times.

Now that electric refrigerators are being sold more and more upon eye appeal, the dealers and their salesmen need some way of obtaining a clear picture of new merchandise being offered for sale.

We have designated this issue as the New Equipment Number so that all manufacturers may concentrate the presentation of their new models in this one issue, explaining the new features in detail and illustrating the salable points of their new products.

For your advertising in this issue, we recommend "exhibition copy"—show your complete line and describe each model in detail.

Manufacturers of parts and supplies, accessories and related merchandise (articles to use with the refrigerator) are also invited to present their exhibits in the New Equipment Number.

Dealers are clamoring for merchandise which will sell, and they want the reason why it will serve the customer better. They are unusually interested today in all the various component parts of the complete refrigeration system.

This issue is designed to answer the questions which dealers are asking us. Here is an opportunity to spread a display of your products before all the important buyers in the industry just when they are trying to decide whose electric refrigerators are "the best buy" this year.

Use this coupon to reserve space.

Features of other coming issues

March 8—Department Store Number

Extra distribution to merchandise managers and household appliance managers of department stores. Further details later.

March 22—Specifications Number

A new tabulation of complete specifications of all models made by all manufacturers. Further details later.

April 12—Air Conditioning Number

News of recent developments and a complete directory of equipment and manufacturers. Further details later.

Electric Refrigeration News
550 Maccabees Bldg.
Detroit, Mich.

Date _____

Gentlemen:

☐ We want to exhibit our new products in your New Equipment Number, February 22. Reserve space of _____ columns by _____ inches.

☐ Send us further details regarding the Department Store Number, March 8, the Specifications Number, March 22, and the Special Air Conditioning Number, April 12.

Company _____

Address _____

Signed _____

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● It's Easily Handled

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points throughout the country.

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Spiral Copper Finned Iron,
Steel or Copper Pipe

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MFG. CO.

DETROIT, MICH.

STATISTICS

24,078 Household Refrigerators Sold In December, 1933, by 10 Nema Companies as Compared with 21,029 in November

Reported by Refrigeration Division of National Electrical Manufacturers Association.
Member companies: Copeland, Crosley, Frigidaire, General Electric, Gibson, Grigsby-
Grunow, Kelvinator, Norge, Servel, Trupar, Universal Cooler, and Westinghouse.
Statistics for Crosley and Gibson not included.

As Billed to Distributors and Dealers, Including Exports.

Lowest Priced Cabinets Net Food Space		Systems Included		Cabinets Only	
Quantity	Dollars	Quantity	Dollars	Quantity	Dollars
1. Under 4.00 cu. ft.	28	1,641.00	51	1,047.00	
2. 4 to 4.99 cu. ft.	7,733	498,268.00	220	5,587.00	
3. 5 to 5.99 cu. ft.	1,299	105,434.00	76	2,319.00	
4. 6 to 6.99 cu. ft.	2,717	237,027.00	1	19.00	
5. 7 to 7.99 cu. ft.	1,903	203,429.00	5	243.00	
6. 8 to 9.99 cu. ft.	233	30,750.00	1	97.00	
7. 10 to 12.99 cu. ft.	2	377.00			
8. 13 to 16.99 cu. ft.	59	13,145.00			
9. 17 to 24.00 cu. ft.	17	4,600.00	4	554.00	
10. Totals if Cabinets only			358	9,836.00	
11. Totals if Systems included	13,991	1,084,671.00			
Medium Priced Cabinets					
21. Under 4.00 cu. ft.	215	17,952.00	1	21.00	
22. 4 to 4.99 cu. ft.	3,263	299,934.00	49	1,453.00	
23. 5 to 5.99 cu. ft.	1,181	123,193.00			
24. 6 to 6.99 cu. ft.	3,436	387,771.00	18	474.00	
25. 7 to 7.99 cu. ft.	179	26,369.00	1	65.00	
26. 8 to 9.99 cu. ft.	343	59,500.00	33	1,859.00	
27. 10 to 12.99 cu. ft.	101	22,276.00	24	2,133.00	
28. 13 to 16.99 cu. ft.	18	4,910.00	2	267.00	
29. 17 to 24.00 cu. ft.	10	3,515.00	25	4,361.00	
30. Totals if Cabinets only			153	10,639.00	
31. Totals if Systems included	8,748	945,420.00			
Highest Priced Cabinets					
41. Under 4.00 cu. ft.					
42. 4 to 4.99 cu. ft.	4	415.00			
43. 5 to 5.99 cu. ft.	25	3,081.00	4	126.00	
44. 6 to 6.99 cu. ft.					
45. 7 to 7.99 cu. ft.	5	997.00			
46. 8 to 9.99 cu. ft.					
47. 10 to 12.99 cu. ft.	3	841.00			
48. 13 to 16.99 cu. ft.					
49. 17 to 24.00 cu. ft.					
50. Totals if Cabinets only			4	126.00	
51. Totals if Systems included	37	5,334.00			

HOUSEHOLD		Quantity		Dollars	
61. Total (cabinets only)		515	20,631		
62. Total (systems only)		22,774	2,035,425		
63. Separate Household Systems		644	57,330		
64. Separate Household Low Sides		660	10,782		
65. Total Items 62, 63 and 64		24,073			
66. High Sides, 1/4-hp. and Less		966	40,303		
67. Parts and Miscellaneous (household)			6,059		
68. Total of 61, 62, 63, 64, 66 and 67			2,170,660		
COMMERCIAL					
71. Water Coolers with High Sides		240	23,112		
72. Water Coolers with No High Sides		67	3,718		
73. Ice Cream Cabinets with High Sides		154	20,551		
74. Ice Cream Cabinets with No High Sides		167	19,833		
75. Milk Coolers with No High Sides					
76. Room Coolers with No High Sides		4	370		
77. Counters and Commercial Boxes		1	100		
78.					
79. Extra Low Sides (commercial)		2,680	81,877		
80. Extra High Sides 1/3-hp. and up		1,508	175,073		
81. Parts and Miscellaneous (commercial)			13,745		
82. Total 71 to 76 inclusive and 79		3,312			
83. Total Items 65 and 82		27,393			
84. Total Commercial (71 to 81 inclusive)			358,383		
85. Total Dollars (68 and 84)			2,509,040		

1932 AUTO PRODUCTION ESTIMATED AT 1,434,197

NEW YORK CITY—Production of automobiles for the year 1932 is estimated in private figures at 1,434,197 units, against 2,418,216 in 1931.

For the first week in January production was set at 25,479, against 27,431 in the preceding week, and 30,775 for the corresponding week in 1932.

General Motors led all producers for 1932 with a total output of 545,553 cars, against 1,032,885 in 1931. Ford produced 410,631 cars in 1932, against 759,387 in 1931, while Chrysler's output was 232,268 for last year and 270,901 in 1931.

Chevrolet led Ford for the year turning out 417,243 cars for the year. Output of Chevrolet for the preceding 12 months was 767,973. Plymouth produced 121,630 in 1932 against 114,080 in 1931.

ELECTRICITY PRODUCTION IN 1932 DECREASES

WASHINGTON, D. C.—Production of electricity for public use in the United States decreased 9 1/2 per cent in 1932, registering a total of 82,939,000,000 kwh., the Geological Survey of the Department of the Interior announced in its monthly report, Feb. 1.

The report also stated that the average daily output in December, 1932, was about .5 per cent less than in November. The normal change from November to December, according to the report, is a gain of about 1 per cent.

580 Refrigerators Used In Turin, Italy

TURIN, Italy—Approximately 550 electric refrigerators are in use in this city of 600,000 population, according to L'Informazione Industriale, a trade magazine published in this country.

Municipal power authorities are undertaking an intensive educational campaign to secure a heavier household load for the 2,100,000,000 kwh. annual capacity of the municipal plant and service of the Societa' Istituzione Industriale Piemontese available here, the magazine reports.

The number of irons in use in the city is given as 150,000; water heaters, tea kettles, and percolators, 85,000; air heaters, 7,000; vacuum cleaners, 6,800; floor polishers, 6,200; and ranges with ovens, 2,750.

PERU PASSES TAX ON REFRIGERATORS

LIMA, Peru—A tax on electric and ice refrigerators has been passed in Peru, the proceeds of which are to be used to institute and support a national school of medicine, according to Julian D. Smith, assistant commercial attache here.

Six sols per year is the tax on residential refrigerators. From 24 to 60 sols per year, depending upon the capacity of the refrigerating plants, is the tax on clubs, restaurants, grocery stores, and public establishments. The assessment is two sols per 1,000 kilos of ice consumed. Charitable institutions are exempted.

Nema Stocks—December 31, 1932

Systems Included		Cabinets Only	
Factory, Branch, and Warehouse	Dollars	Factory, Branch, and Warehouse	Dollars
Quantity	Dollars	Quantity	Dollars
1. 1,524	85,914.00	848	48,393.00
2. 10,982	736,134.00	5,429	365,081.00
3. 9,401	752,609.00	4,226	312,868.00
4. 4,529	390,139.00	2,413	212,189.00
5. 8,781	851,351.00	3,429	345,045.00
6. 179	23,309.00	493	61,356.00
7. 489	92,085.00	338	65,329.00
8. 917	181,841.00	228	37,550.00
9. 984	290,667.00	185	48,519.00
10.			
11. 37,786	3,404,049.00	17,569	1,496,330.00
21. 968	73,271.00	517	39,320.00
22. 16,506	1,448,199.00	10,215	880,555.00
23. 3,305	328,553.00	2,662	250,673.00
24. 26,493	3,208,428.00	10,083	1,227,448.00
25. 448	60,450.00	78	10,408.00
26. 4,433	771,416.00	2,482	421,323.00
27. 3,755	838,318.00	1,230	271,519.00
28. 2,027	528,830.00	177	47,946.00
29. 466	166,834.00	240	59,322.00
30.			
31. 58,401	7,424,349.00	27,684	3,208,514.00
41.			
42. 95	9,855.00		
43. 285	35,083.00	30	3,693.00
44. 2	357.00		
45. 18	3,125.00	21	4,130.00
46.			
47. 15	4,109.00	12	3,251.00
48.			
49.			
50.			
51. 415	52,529.00	63	11,074.00

HOUSEHOLD

Quantity	Dollars
61. Total (cabinets only)	32,089
62. Total (systems only)	96,602
63. Separate Household Systems	5,322
64. Separate Household Low Sides	4,791
65. Total Items 62, 63 and 64	106,715
66. High Sides, 1/4-hp. and Less	3,389
67. Parts and Miscellaneous (household)	28,187
68. Total of 61, 62, 63, 64, 66 and 67	12,656,863

COMMERCIAL

Quantity	Dollars
71. Water Coolers with High Sides	11,620
72. Water Coolers with No High Sides	1,906
73. Ice Cream Cabinets with High Sides	2,265
74. Ice Cream Cabinets with No High Sides	3,637
75. Milk Coolers with No High Sides	12
76. Room Coolers with No High Sides	2,745
77. Counters and Commercial Boxes	1,172
78.	
79. Extra Low Sides (commercial)	16,756
80. Extra High Sides 1/3-hp. and up	11,671
81. Parts and Miscellaneous (commercial)	131,511
82. Total 71 to 76 inclusive and 79	38,841
83. Total Items 65 and 82	145,556
84. Total Commercial (71 to 81 inclusive)	4,717,691
85. Total Dollars (68 and 84)	17,476,054

Line 85 prorated to correspond with total sales of 10 companies \$17,878,316

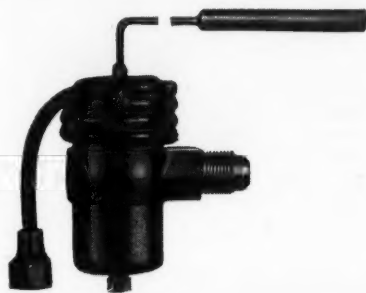
No. of Mfrs. reporting on Line 85, their % of total sales: 9 Mfrs.—97.75%. 6 Mfrs.—74.33%. *Shows number of manufacturers reporting on items above line 85 in these double columns; also the % of total sales for the month made by these companies.

Bureau Estimates Sales of 769,695 Units in U. S. Only During 1932

Bureau Quota Year 1932	Esti- mated Sales	% Total Sales
New England Division		
Connecticut	16,886	16.374
Maine	7,525	5.027
New Hampshire	50,848	34.033
Massachusetts	5,214	53.1
Rhode Island	8,019	6.807
Vermont	3,142	2.434
Eastern Division		
Delaware	1,816	1.970
Maryland & D. C.	18,933	25.780
New Jersey	47,605	12.734
New York	153,930	186.536
Pennsylvania	87,633	70.217
East Central Division		
Kentucky	11,575	7.965
Ohio	64,123	33.503
West Virginia	7,581	7.533
Middle West Division		
Iowa	18,735	9.364
Kansas	14,393	7.401
Missouri	27,450	26.278
Nebraska	10,319	5.953
Pacific Coast Division		
Arizona	2,729	1.490
California	73,389	37.403
Nevada	736	864
North West Division		
Idaho	2,408	1.517
Montana	3,268	1.613
Oregon	9,264	4.903
Utah	4,218	2.941
Washington	16,917	5.313
Southeastern Division		
Alabama	7,606	4.565
Florida	9,437	7.177
Georgia	8,004	6.538
North Carolina	9,849	6.352
South Carolina	4,945	3.124
Tennessee	9,853	7.072
Virginia	11,054	12.621
Great Lakes Division		
Illinois	77,085	57.390
Indiana	29,216	14.145
Michigan	46,590	25.443
Wisconsin	26,512	10.106
North Central Division		
Minnesota	19,752	13.951
North Dakota	2,509	1.433
South Dakota	3,314	1.223
Rocky Mountain Division		
Colorado	8,048	5.319
New Mexico	1,348	858
Wyoming	1,407	677
Southwestern Division		
Arkansas	4,670	2.992
Louisiana	7,688	4.400
Mississippi	4,216	1.793
Oklahoma	11,071	8.093
Texas	27,238	20.669
Totals	1,000,008	769,695

Nema Distribution By States

STATES and Territories	Quantity of HOUSEHOLD Low Sides
Connecticut	531
Maine	199
Massachusetts	1,065
New Hampshire	70
Rhode Island	168
Vermont	73
New England Total	2,046
Delaware	46
Maryland & D. C.	656
New Jersey	1,241
New York	6,841
Pennsylvania	1,233
Eastern Total	10,410
Kentucky	178



The PEERLESS THERMAL EXPANSION VALVE

(Pat. No. 1870090, Others Pending)

For use with Methyl Chloride and Sulphur Dioxide

The perfect thermostatic valve. The control always resides in the bulb due to the patented Peerless warming method. The PEERLESS will eliminate your expansion valve troubles.

List Price, \$13.50. Write for bulletin.

PEERLESS ICE MACHINE CO., 515 W. 35th St., Chicago, Ill.

A NEW FIN COIL by PEERLESS

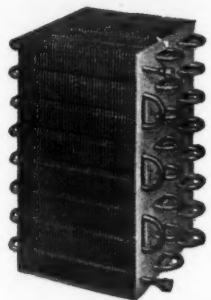
Wedge-locked and edge-locked aluminum fins on tinned copper tubing for methyl chloride, sulphur dioxide, F-12, etc.—aluminum tubing for ammonia. Absolute Metal to Metal Contact.

A Superior Coil in which Soldered Return Bends have been eliminated.

Priced to meet 1933 conditions.

Write—Wire for Catalog.

PEERLESS ICE MACHINE CO., 515 W. 35th St., Chicago, Ill.



Completely assembled and individually bagged. Ready for shipment in your refrigerator. Write for complete list of standard sizes and prices.



HOOSIER LAMP & STAMPING COMPANY, EVANSVILLE, IND.

REFRIGERATION SUPPLIES

We carry a complete stock of

EVERYTHING IN REFRIGERATION

including

JARROW DOOR GASKET MATERIAL

Save time, work and expense by buying everything from one source

MELCHIOR, ARMSTRONG, DESSAU CO.

116 Broad St., New York

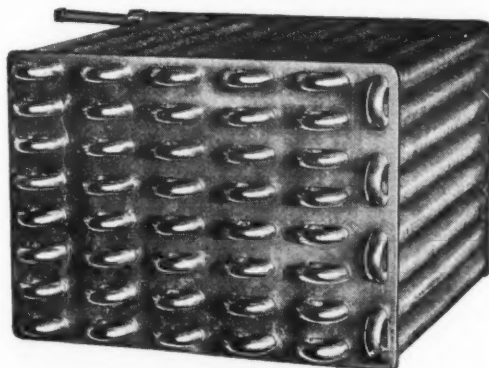
1135 Callowhill St., Philadelphia

ROME EVAPORATORS

Highest Efficiency
With Smallest Number
of Joints

Rome-Turney Radiator Co.
Rome, N.Y.

Makers of Rome Condensers and
Helical Finned Tubing



Do You Want Something Else to Sell?

Home owners are increasingly conscious of the advantages of clean, fresh air in kitchen, bath and other rooms of the house. There is a big market for MOTOVENT, the electric home ventilator. Fits any window—easy to install—beautiful in appearance.

Models to retail at 29.50 to 49.50. Attractive margins to distributors and dealers. Write for full details.

MOTOVENT

FRED'K N. ROSS, Inc.

1010 Beaubien St., Detroit

MILK COOLERS FOR FARMS

Moderate Priced—Quick Cooling—Low Operating Cost
Complete Unit or Cooling Coils Furnished Separately

All Small Refrigeration Accessories
Tools - Fittings - Copper - Controls, etc.

ICELESS REFRIGERATION ACCESSORIES COMPANY

2401 Chestnut Street

Philadelphia, Penna.

Sales Agent for

L. SAHA CO., Inc.

Local Territory Open for Responsible Organization

BRING YOUR REFRIGERATION DIRECTORY UP TO DATE

THE NEW 120-PAGE SUPPLEMENT to the 1932 Refrigeration Directory and Market Data Book, hitherto available only as a part of the Directory, can now be purchased SEPARATELY. It contains an analysis of current distributional trends; detailed specifications of 354 household models of 48 manufacturers; a month-by-month tabulation of sales during 1932; an air-conditioning directory; etc. Bound in green paper. 24c per copy. Payment in stamps acceptable. Write:

Business News Publishing Co., 550 Maccabees Bldg., Detroit

QUESTIONS

Door Latch

No. 1064 (Service Man, New York)—“Where can I buy a refrigerator door latch of modernistic design with a black bakelite or composition handle?”
Answer—Kason Hardware Corp., 61 Navy St., Brooklyn, N. Y.

Sales Figures

No. 1065 (Jobber)—“We would appreciate receiving comparative information on the unit sales of the leading refrigerator manufacturers, their gain in unit sales of 1932 as compared to 1931, and the outlook for 1933, if these facts are available.”

Answer—Leading manufacturers of electric refrigerators do not report their individual sales for publication. However, they report their sales and stocks to the statistical department of the National Electrical Manufacturers Association, and totals for all companies for this group are officially published in ELECTRIC REFRIGERATION NEWS as issued.

All refrigeration figures which have ever been issued by the association up to October, 1932, are given in the REFRIGERATION DIRECTORY and MARKET DATA BOOK and the Supplement which was issued in November.

“Pur-O-Zone”

No. 1066 (Dealer, Michigan)—“Kindly advise us what you know about the ‘Pur-O-Zone’ idea for electric refrigerators.”

Steel for Needle Valves

No. 1067 (Manufacturer, Illinois)—“Kindly advise us what is the best non-corrosive steel to be hardened for use as needle valves for electric refrigerators, and will withstand sulphur dioxide and methyl chloride. Who furnishes the material?”

Answer—The Engineering Editor will appreciate information on this subject.

Artificial Foods

No. 1068 (Manufacturer, Ohio)—“Can you furnish us with the names of manufacturers which supply wax imitation foods for use in refrigerator displays? We already have a source

of supply for paper mache' foods, but one of our customers is interested in getting wax items.”

Answer—See page 362, REFRIGERATION DIRECTORY and MARKET DATA BOOK.

Commercial Service Manual

No. 1069 (Service Man, Missouri)—“Please advise me where I can obtain a service manual showing different types of commercial installations.”

Answer—No service manual covers all makes of commercial installations, although manuals prepared by the leading manufacturers of commercial refrigeration equipment describe various applications of their own equipment. If you are handling service and installation for any particular manufacturer, you can doubtless secure a service manual on that make by writing direct to the factory.

Dehydrating Ovens

No. 1070 (Engineer, New York)—“Will you please advise me where to purchase drying equipment, ovens, vacuum pumps, etc., and also secure complete information on a modern installation. We require this equipment to dehydrate hermetic compressors, using sulphur dioxide as refrigerant.”
Answer—Despatch Oven Co., 627 Ninth St. S.E., Minneapolis, Minn.

Refrigeration Training

No. 1071 (Texas)—“Where can I get information about a training course in electric refrigeration?”

Answer—Write to the schools listed on page 355 of the REFRIGERATION DIRECTORY and MARKET DATA BOOK.

Agency for Oil-Burning Refrigerators

No. 1072 (Kentucky)—“I have been advised by the General Electric Co. that you can inform me relative to the agency for oil-burning refrigerators. Please direct me to manufacturers of this type of equipment.”

Answer—Communicate with the Gibson Electric Refrigerator Corp., Greenville, Mich.

Oil-Burning Grocery Refrigerator

No. 1073 (Texas)—“Please refer us to several reliable manufacturers of oil-burning refrigerating units for installation in a grocery ice box. This is a seven-door box about 8x6x2½ ft., and has an ice chamber of 500 lbs. capacity.”

Answer—No manufacturer has announced an oil-burning unit with sufficient capacity to handle a cooler of the size mentioned.

Export of Refrigerators

November, 1932, Shipments Reported by the Bureau of Foreign and Domestic Commerce, Washington, D. C.

	Number	Value	Number	Value	Parts for Electric Refrigerators
					Value
Austria	16	\$ 852			\$ 580
Belgium	20	2,189	103	\$ 11,635	13,100
Czechoslovakia					191
Denmark	25	1,741	16	1,272	2,307
Finland			1	99	56
France	78	6,677	87	6,602	5,578
Germany	57	2,364	7	537	4,468
Iceland	2	127			
Italy	13	798			114
Latvia	1	115			
Netherlands	17	1,436	47	5,447	3,232
Norway	1	111	4	672	746
Portugal	1	85	2	230	
Rumania	1	126			
Spain	17	1,983	20	2,062	228
Sweden	43	2,773	14	2,963	1,627
Switzerland	110	10,607	25	2,718	4,767
United Kingdom	80	2,744	19	1,244	10,921
Canada	3	284	1	125	11,051
Costa Rica	9	1,065	2	416	
Guatemala					38
Honduras	3	418	3	426	
Nicaragua	1	168			167
Panama	26	3,425	19	4,373	663
Salvador	2	209			2
Mexico	59	5,472			176
Bermudas	18	2,460	8	1,515	378
Barbados	11	1,058			62
Jamaica	3	932	2	410	7
Trinidad and Tobago	20	2,886	1	136	
Other British West Indies					42
Cuba	25	1,608			336
Dominican Republic	11	1,359	1	100	42
Netherlands West Indies	8	703			104
French West Indies	1	126			13
Haiti, Republic of			3	396	240
Virgin Islands of U. S.	1	50			
Argentina	117	9,026	53	8,076	6,785
Brazil	304	32,223	22	3,455	1,362
Colombia	24	2,258			165
Ecuador	5	308			
British Guiana	3	225			270
Surinam	2	186			
Peru	8	1,093			18
Uruguay	23	1,441	8	903	1,800
Venezuela	32	3,186	3	1,349	248
Aden	7	827			
British India	7	698	7	1,172	1,709
Ceylon	25	2,615	5	750	307
China	10	1,200	20	3,089	342
Netherlands East Indies	69	8,426	14	3,531	597
French Indo-China	6	646			1,546
Hong Kong	4	522			737
Japan	9	797			1,417
Palestine			3	898	
Philippine Islands	26	2,634	18	2,916	2,092
Siam	16	1,535			
Syria	1	95	4	894	23
Australia	4	298			3,030
French Oceania	1	99			
New Zealand	13	919			138
British East Africa	5	387			116
Union of South Africa	806	81,647	20	6,049	5,703
Other British South Africa			11	1,071	
Gold Coast	6	494			122
Nigeria					78
Other British West Africa	4	439			7
Egypt	10	1,029	1	273	
Algeria and Tunisia	7	719	2	275	861
Other French Africa	5	707			
Morocco	24	2,173	7	1,054	798
Mozambique	2	223			
Canary Islands	3	216			
Total	2,271	\$216,242	583	\$ 79,133	\$ 91,532
Shipments to Hawaii	475	\$ 32,814	33	\$ 10,021	\$ 2,436
Porto Rico	28	\$ 2,903	3	\$ 600	\$ 920

CLASSIFIED

PAYMENT in advance is required for advertising in this column.

RATES: Fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each.

REPLIES to advertisements with box numbers should be addressed to the box number in care of Electric Refrigeration News, 550 Maccabees Bldg., Detroit, Mich.

POSITION AVAILABLE

OPENING for experienced wholesale salesman on straight commission basis, no drawing account. Complete line of household and commercial electric refrigeration. Old established manufacturing concern. Give refrigerator experience and full details in first letter. Box 544.

POSITIONS WANTED

SOME manufacturer, utility or distributor can profitably capitalize my fourteen years experience in the electrical industry, five in refrigeration with a leading manufacturer and a distributor. Experience includes direct domestic and commercial sales, territory layout, organization and training of dealer and utility outlets, setting up advertising schedules, promotional activities and campaigns. Box 545.

INSTALLATION and service engineer with 17 years' experience on ammonia and three years on methyl chloride and sulphur dioxide systems desires permanent position. Am 37 years old, white, married, sober and industrious. Will go anywhere. Can rip out old ammonia installations and replace with more modern types if desired. Box 546.

REFRIGERATION engineer, college man, member A.S.R.E., single, willing to travel, seeks connection with reputable manufacturer or distributor. Experienced as manager distributor's refrigeration department, sales and service, wholesale and retail, commercial and domestic. Familiar with all refrigerants. Can furnish excellent references, including present employers, covering ten years refrigeration experience. Box 548.

FRANCHISE WANTED

LARGEST Radio Distributor for the past several years in Cincinnati, Ohio, area desires to make connection with responsible electric refrigerator manufacturer for distribution of domestic refrigerators. Please write Box 547.

MISCELLANEOUS

SALESMEN—A fast new novelty that sells easily and brand. An automatic electric flashlight instantly attached in any refrigerator. Lights up when the door opens. No wiring—no installation cost. Sells for \$1.50. W. C. Smith, Mt. Vernon, N. Y.

WANTED: Salesmen in each jobbing center for new line of commodities (not refrigeration products) to be marketed at low prices. Must be familiar with chain stores and department stores. Give references. Apply to Earle E. Merrett, 3212 Eaton Tower, Detroit, Mich.

OIL BURNING refrigeration units for farm or rural districts can be built of pipe and fittings or welded tubing—in old or new boxes—easy to build, no moving parts—ammonia only—no running water. Full directions and plan \$3.00. Harry Puff, Babylon, N. Y.

INDEPENDENT SERVICE COMPANIES

WE SERVICE all makes of refrigerators and carry supplies for servicemen and dealers. The Key Shop, G. W. Perrine, Prop., 924 Grant St., Springfield, Ohio.

WANTED

New and Used

ELECTRIC REFRIGERATORS

Domestic - - - Commercial
(and Electrolux)

Any quantity - Any type

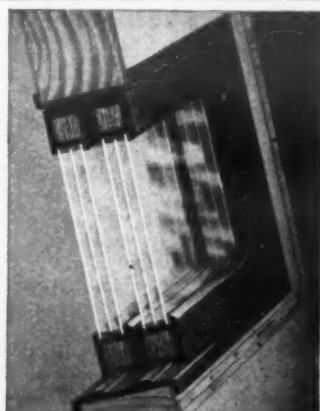
Also Units, Cabinets, Parts, etc.

Write Full Details

RELIABLE REFRIGERATOR CO.

4 West 15th St.

New York, N.Y.



The use of reinforcing, laminated, ply-wood core sealed by vulcanization entirely within ACE HARD RUBBER DOORS FOR REFRIGERATED DISPLAY CABINETS prevents warping and swelling.

Complete catalogue and prices on request

AMERICAN HARD RUBBER COMPANY

New York, N. Y. Akron, Ohio

111 West Washington St., Chicago, Ill.